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Railway Age

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SIXTY-SIXTH YEAR

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EDITORIAL

Railway Age

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The general curtailment of maintenance expenditures during the past six months has in a large measure forced the breaking up and re-arranging of locomotive and car shop forces. Many of the railroads are now restoring these forces preparatory to catching up with deferred equipment maintenance and others will soon be doing so. In many cases this means a complete rebuilding of the organizations, the re-employment of men who have been away from the shops for several months and of new men to replace those who have found other employment or otherwise have drifted away from the service. Until these men have completely acquired their old personal habits of safety and have learned to work well together, the possibilities for personal injuries are greatly increased. Extraordinary precautions should be taken to prevent these possibilities from being realized.

Safety Campaign Needed in the Shops

Approximately one-eighth of all railway expenses or about one-fourth of all transportation expenditures are incurred in the operation of yards. Therefore, it is necessary that it be scrutinized most carefully. One of the most extensive studies of the subject which have ever been made was that which led to the complete systematization of switching work on the Baltimore & Ohio which is described on another page in this issue. This investigation, which extended over the entire system and was designed to co-ordinate this work on all of its lines, had for its objects the reduction of switching to the minimum consistent with the prompt movement of traffic to destination; the performance of this switching at points where it can be done to the best advantage, traffic conditions and physical facilities considered, and the distribution of this work so as to secure the maximum use from the existing facilities and thereby postpone or eliminate the necessity for additional expenditures. The results of this study were crystallized into a detailed plan for the conduct of all switching work over the system so that the forces at each local terminal can work in harmony with the system plan and contribute to its savings. This plan and the study which preceded it should be very helpful to operating officers on other roads who are confronted with similar problems.

A System Study of Yard Operation

The derailing switch, one of the time-honored institutions of American railroad practice, not only averts dangers, but sometimes is the cause of danger, and that of a costly character. The automatic block signal not only facilitates train movement, reducing delays, but in some circumstances may introduce a new and troublesome source of delays; delays which are so costly that the fact has been used as an argument for not installing automatics. These somewhat anomalous facts are brought out by A. H. Rudd, chief signal engineer of the Pennsylvania system, in his two articles printed in the *Railway Age* of July 16 (page 112) and in this issue. These articles are well worth the attention of all operating officers—including signal engineers and other engineers who realize the importance of their functions as counselors of the general

Some Inconsistencies in Our Signaling

manager in operating questions—for Mr. Rudd is an idealist as well as a practical engineer, and his writings are calculated to induce readers to agitate his proposals in their own minds. The *Railway Age* will be only too glad to compile the facts of experience bearing on Mr. Rudd's questions, as suggested by him in the earlier article, so far as such facts can be made available; every reader is invited to send them; but in view of the elusive character of the great bulk of these data, it seems quite reasonable at this time to suggest that each officer who is interested in these problems shall begin at once to formulate his conclusions, on the basis of what he already knows. In what particular can you, Mr. Manager, dispute Mr. Rudd's assertions? If you do not accept his proposals, what are your reasons for your conservatism?

The important part played by the chief clerks in railroad offices is practically pretty generally realized. Whether or not the salary and official recognition accorded the position are adequate is another question and one which merits careful consideration. In the *Railway Age* of July 23 a chief clerk discussed the question from what presumably is the point of view of a great number of men filling that position. He contended that the chief clerk who was called upon to act for his superior belonged really in the "assistant to" officer category and should be so classified and paid. On another page of this issue will be found a letter to the editor by an operating officer in answer to the chief clerk's contentions. This officer, while suggesting that chief clerks are, perhaps, not adequately paid, takes the view that business of an official nature cannot in the interest of the property be entrusted to them to too great an extent because, he says, of their lack of outdoor experience. He calls attention to the practice of referring the recommendations of responsible subordinate officers to the chief clerks of superior officers for their decision and he urges that no recommendations should be vetoed or letters of criticism written except by the officer himself. In short, his remedy for the problem would be the curtailment of the chief clerk's authority. An impartial observer can see merit in the points of view of both our correspondents. Their views are, however, widely divergent. More discussion will be needed to harmonize them—and the subject merits discussion, for the chief clerks by and large are a loyal band of men and the suggestion that they are being dealt with unjustly deserves the fullest investigation.

Curtailment of Authority

The adoption of store door delivery is now being urged vigorously for the cities of New York and Baltimore, Md., with a fair prospect of success in one or both places. Store door delivery is quite familiar to Baltimore since that city had nearly 45 years' experience with it up to 1911, when it was withdrawn because of certain features held to be discriminatory by the Interstate Commerce Commission. New York has had no direct experience with store door delivery, although as a result of the terminal congestion during the war period such a service might have been inaugurated under government control had not the signing of the armistice intervened. As

The Adoption of Store Door Delivery

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a means purely to lessen or relieve congestion at terminals, store door delivery has proved itself both in this country and others. Its practicability under the exceedingly complex terminal and business conditions now prevailing is not, however, entirely clear to a large number of railway and business men nor is it, as yet, recognized as being altogether desirable. The more advanced forms of this service have eliminated many of the features heretofore objectionable to the railroads, the trucking companies and the shippers. In their place newer methods are being advocated which apparently give the method a greater degree of flexibility. Baltimore, with its experience to look back to, is, in general, favorably inclined toward the adoption of a modified form of store door delivery and the results of the many meetings between representatives of railway companies, trucking concerns and shippers point toward an increasing possibility of its early adoption. New York is not so favorably inclined but the idea is being pushed strongly as a relief measure for the port of New York. While the interest manifested in store door delivery is, as yet, more or less local to the two cities involved, the developments at these two places should be watched closely. There is present the possibility that, should it be adopted at one or both places, public opinion would demand its inauguration at other important terminals.

It is significant to note that, out of a considerable number of prominent railroad men recently approached for sugges-

Separate the Car Department

tions as to how the mechanical department could function more effectively, several stressed the importance of maintaining separate motive power and car departments. The consensus of opinion seemed to be that for all large roads there should be one officer in charge of the entire mechanical department with two assistants in charge of locomotive and car maintenance work respectively. In this way there would be undivided responsibility and a more direct supervision of the work, thus saving time and eliminating a large amount of red tape. It is by no means true that all motive power men are incapable of assuming charge of car departments, but in far too many cases their experience has been confined to the locomotive side and they are unfamiliar with methods of handling car repair work. In these cases, there is a tendency to adopt the suggestions of minor car department officers regarding serious problems which have not been worked out with sufficient care. Another argument in favor of separating the motive power and car departments on the larger railroads is that the burden of responsibility for both departments is more than one man ought to bear. There is altogether too little appreciation of the importance of the car department by railroad men in general. True, the locomotive usually comes first in a train, and there is something almost of fascination about the word "motive-power," but the fact remains that more than twice as much money is tied up in freight cars alone as in locomotives. Responsibility for the maintenance of equipment representing this immense investment should not be placed on motive power officers who already have as much as they can do to keep locomotives in proper operating condition. The most experienced, high caliber men available should be secured to direct the policies of car departments and then made fully responsible for results. Experience has amply demonstrated that material economies can be effected on large railroads by maintaining separate locomotive and car departments under a joint mechanical department head. The claim that such an organization is top-heavy has never been established. In fact the tendency is to fix responsibility, get direct action, eliminate a large amount of red tape and increase car department efficiency.

While there is some difference of opinion among railway supply men regarding purchases of equipment in the immediate future the general impression prevails that the railway companies

The Equipment Situation

will during the next few months carry out an extensive program of repairs. If the government refunding plan as outlined by President Harding is carried out it will make it possible for the railways to place orders for equipment, although large orders will likely be delayed until the number of idle cars and bad order cars is less than at the present time. The *Railway Age* showed in its equipment record for July that 6 locomotives were ordered for domestic roads and 61 for foreign account and that inquiries were made for prices on repairs to 130 locomotives. In July orders were placed for repairs to 9,500 cars and inquiries made for prices on repairs to 11,450 cars. Other contracts pending or about to be closed will greatly increase these figures. Orders were reported in July for but 775 freight and 10 passenger cars for domestic use and 960 freight cars for foreign account. The predominance of business in repair work as compared with new orders is too striking to pass without comment. It is further shown by the production figures reported by the Railway Car Manufacturers Association. In the first six months of 1921 the companies reporting to that organization delivered 29,347 new freight cars on domestic orders. In the same period there were delivered 23,639 repaired cars. The new cars delivered in June totaled 2,245; the repaired cars, 2,939.

Why Limit the Joint Committee Specifications to Buildings?

THE SPECIFICATIONS for concrete and reinforced concrete recently submitted in tentative form by the Joint Committee, which are reviewed elsewhere in this issue, are probably a source of disappointment to railway bridge engineers and others engaged in the design of railway structures.

Concrete and reinforced concrete are used by the railways primarily for the construction of bridge piers and abutments, arches, reinforced concrete trestles, retaining walls and culverts, whereas only a very limited number of railway buildings lend themselves to the use of these materials. The specifications prepared by the Joint Committee on the other hand are admittedly and clearly intended primarily for building construction.

This limitation applies only in minor degree to that portion of the specifications relating to workmanship and materials. This in a large measure constitutes an elaboration and improvement over the specifications adopted by the American Railway Engineering Association in 1920. The real shortcoming, insofar as railway structures is concerned, relates to the specifications for design. The Joint Committee's specifications present detailed requirements for the framing of columns, beams and slabs and for flat slab construction as used in multiple story reinforced concrete buildings. Retaining walls, it is true, receive some attention, but presumably this is because they form an important part in building basement construction. On the other hand, the requirements of such structural items as reinforced concrete trestle slabs, which must be adequate to carry heavy and rapidly moving trains, are covered only by the most general statements concerning simple reinforced concrete slabs. Arches also receive no attention in the specifications.

This tendency of the committee to favor building work to the exclusion of bridge work may be explained largely by the influence of the American Concrete Institute, an association which has been very active in developing concrete practice and with which few railway men have been prominently

identified. Whether or not it is the intention of the Joint Committee to supplement the work it has already done by a greater measure of detail concerning structures other than buildings, the fact remains that there is a very real need for standardization in the design of concrete bridges, arches, culverts, etc., such as would be accomplished by specifications dealing directly with these structures. If the Joint Committee cannot consistently fulfill this need then it must be met by some other organization, presumably the American Railway Engineering Association. That body has done excellent work during the past 20 years in the development of specifications for steel railway bridges which, during the course of gradual development in succeeding editions, have gradually come to cover a multitude of detail not considered in the original scope. Efforts to the same end with respect to concrete structures would ultimately lead to the same result and thereby be of great value in the promulgation of the best practices in the use of a most valuable structural material.

The Retirement of Chairman Clark

THE RETIREMENT of Chairman E. E. Clark from the Interstate Commerce Commission at this time is a serious loss to the nation. Before Mr. Clark went upon the Commission fifteen years ago he was head of one of the railway labor organizations. Neither railway officers nor shippers highly approved of his appointment. However, while some members of the Commission may have commanded more respect and confidence from the shippers, and some more respect and confidence from the railways, it can be said with confidence that no member of the Commission ever commanded the respect and confidence of both shippers and railway officers at the same time to a greater degree than Mr. Clark did in the years immediately preceding his retirement.

By years of study and experience he acquired an almost unequalled knowledge of the general railroad situation. He manifested a desire and determination to be fair which won the regard even of those who differed from him. He proved himself the possessor in a very unusual measure of that common sense and good judgment which are the very foundation of all ability for handling practical affairs of large moment.

One way in which Mr. Clark showed to an increasing extent, as the years went by, his common sense and good judgment was by trying more and more to get shippers and railways to settle their differences regarding rates and service by conference and agreement with each other. Long experience taught him that protracted hearings and decisions by the Interstate Commerce Commission, or any other body, were not the best way to settle the highly practical business questions arising from time to time between the railways and their customers.

His course in this respect was statesmanlike. Small men in important positions like to show their power by deciding things themselves. He saw that too many of the relations between the railways and those from whom they buy labor and supplies, and to whom they sell transportation, are being settled by regulating bodies. More and more this tendency toward excessive regulation is destroying initiative and flexibility, and hindering progress in the railroad business—tending to make both railway costs and railway rates high, and to impair and curtail service. Mr. Clark evidently saw this. It is impossible to say to just what extent he expressed the views of his fellow members. It is to be hoped future developments will show that he expressed the views of a majority of them.

We understand Mr. Clark has retired because he can make a larger income by practicing before the Commission than he could by drawing a salary of \$12,000 a year as a member of

it. Thus we see illustrated in a striking way the effects of the government's policy of paying men in such important positions such inadequate compensation.

Nobody can justly criticize Mr. Clark for retiring. He served the public faithfully and capably at a personal sacrifice for years. The public had no moral right to claim any further sacrifices from him. What the public should have done was to have paid him what he was worth and kept him in its service.

Not infrequently men get into Congress who know much more about how to make a noise that their constituents will hear than about how much it costs to buy real brains. Recently one such member introduced a bill to fix \$15,000 as the maximum salary that could be paid to any railway officer. Many railway officers would then do what Chairman Clark has done. They would quit positions where they could never hope to get large incomes, and go into business or professional work where they could get them.

The welfare of the country demands that the railways shall be ably regulated and ably managed. Chairman Clark's retirement illustrates the fact that the government, like the railroads, must pay the market price for brains if it is to get and keep them.

The Agitation for Reductions in Rates

THE AGITATION for reductions in railway rates is nationwide and relates to almost every important class of commodities. In a single day the *Railway Age* received literature advocating general reductions in rates on grain, live stock, petroleum, iron and steel, coal, ore and lumber. In each case those sending out the literature gave reasons why reductions were especially needed in the rates on the particular class of commodities in which they were most interested. It is easy to understand why shippers of all classes desire reductions of their rates. It is hard to understand why they do not realize that general reductions of rates under present conditions in the railroad business would be unjust and, in the long run, harmful to business of all kinds.

Most of the arguments set forth merely why producers and shippers of particular classes need lower rates, and say little about why the railways under present conditions need the present rates. None of them makes any reference to the fact that while rates are now high compared with the general level of prices, for many years rates did not increase while the general level of prices was advancing, and that the producers and shippers who were now complaining about the present rates were, during this long period of years, profiting by the fact that prices were advancing while railway rates were not.

The average railway freight rates was the same in 1917 as in 1913. Meantime the average wholesale prices of commodities had advanced 76 per cent. In 1920 the average railway freight rate was 46 per cent higher than in 1913, while the average wholesale prices of commodities were 143 per cent higher than in 1913. Since the present freight rates were fixed the average railway rate has been 70 per cent higher than in 1913. As recently as January, 1921, average wholesale prices of commodities were 77 per cent higher than in 1913. Only since then have freight rates been relatively lower as compared with 1913 than wholesale prices.

In other words, during the entire six years from 1915 to 1920, inclusive, average wholesale prices were from 1 to 143 per cent higher than in 1913, while railway rates during this time were never more than 46 per cent higher than in 1913. Yet now, when for less than six months railway rates have been relatively higher as compared with 1913 than wholesale prices, we have a loud and general demand for reductions in rates on the ground that producers and shippers "cannot stand" the present rates.

Do any of these producers and shippers remember what

spokesmen of the railways were constantly saying between 1913 and 1917, when railway rates were standing still and average prices were advancing 76 per cent? We shall refresh their memories by recalling that at that time every spokesman for the railways was saying that with wages and prices of all kinds advancing the railways "could not stand" the then existing railway rates and were entitled to advances in them, both because the cost of railway operation was rapidly increasing and because the increasing prices of commodities would enable the traffic to stand higher rates. Nevertheless, almost every class of the shippers who are now demanding reductions of rates then opposed, and successfully opposed, advances in rates.

Upon what principle of consistency, equity or sound business can these people, who opposed advances in rates when their own prices were advancing and the railways needed advances in rates and the traffic could stand it, now demand reductions in rates because prices have declined and they need reductions of rates which the railways cannot stand? They profited for six years by keeping railway rates relatively much lower than their own prices. Is it unfair to suggest that they should now be willing to take for a time such losses as may be caused them by the fact that railway rates are relatively higher than their prices?

It should be added, in this connection, that the present disparity between railway rates and average prices is small compared with what it was when prices were at their peak. When average wholesale prices were 143 per cent higher than in 1913, railway rates were only 46 per cent higher. Now, when the average railway freight rate is 70 per cent higher than in 1913, the average wholesale price of commodities is still 48 per cent higher than in 1913.

Furthermore, while railway rates are at present relatively higher than the prices of most commodities, they are not relatively higher than the things which the railways themselves have to buy, and which determine their costs of operation and the rates at which they can afford to sell their transportation. Without going back so far as 1913, let us compare the average increases since 1916 in the rates which the railways are receiving, and in the average costs they are obliged to meet. The average advance in passenger rates (including the surtax on sleeping car tickets) has been 53 per cent. The average increase in the rate per ton per mile in this five years has been 74 per cent. The average increase in both passenger and freight rates has been less than 65 per cent.

Now take a look at the operating costs. Over 94 per cent of all railway expenses are wages, cost of fuel and cost of materials and supplies. About 90 per cent of all railway employees are paid by the hour, and even since the recent reduction in wages the average cost per hour of railway labor is 123 per cent more than in 1916. There have been substantial reductions since last year in the prices of materials and supplies, but the prices at which the railways are now buying materials and supplies average 65 per cent higher than in 1916. The average price paid for coal in 1916 was \$1.76 per ton. Coal prices have been slowly declining since last December but the average price paid by the railways in May, the latest month for which figures are available, was \$4.29, or almost 144 per cent more than in 1916.

In the first five months of 1921 the total earnings of the railways were 58½ per cent more than in the same months of 1916. Their total operating expenses, in spite of the vast retrenchments made, were 109 per cent more than in the same months of 1916. Their taxes were 80½ per cent more than in the same months of 1916. Result: In the first five months of 1916 the railways earned \$286,400,000 net operating income, while in the same months of 1921 they earned only \$117,000,000 net operating income, a decline in net operating income for these months of over 66 per cent.

From the standpoint of the producer and shipper the

present railway rates are too high. From the standpoint of the railways they have not thus far been high enough. The reason why they are too high from the standpoint of the producer and shipper, and not high enough from the standpoint of the railways, is that the present operating costs of the railways are excessive. Who made these costs excessive? Not the managements of the railways. They did not fix the wages they are paying to labor, or the prices they are paying for materials and supplies, or the prices they are paying for coal. They did not increase their own taxes over 80 per cent. The managements are striving mightily to reduce their costs. Undoubtedly the rates should be reduced—when the costs of labor, materials and supplies and fuel have been reduced enough to enable the railways to pay their operating expenses and make a reasonable net return on lower rates.

We can draw only one of two conclusions from the widespread propaganda that is being carried on for general reductions in rates. One of these is that those who are carrying it on are ignorant of present railway conditions, which reflects no credit on any man who sets himself up as qualified to discuss railway rates. The other is that those who are carrying on this propaganda are willing to help complete the financial and physical ruin of the railways of the United States if, by carrying on agitation regarding rates, they can win the temporary approval and applause of the classes of producers and shippers on whose applause and approval they rely for the furtherance of their own selfish interest.

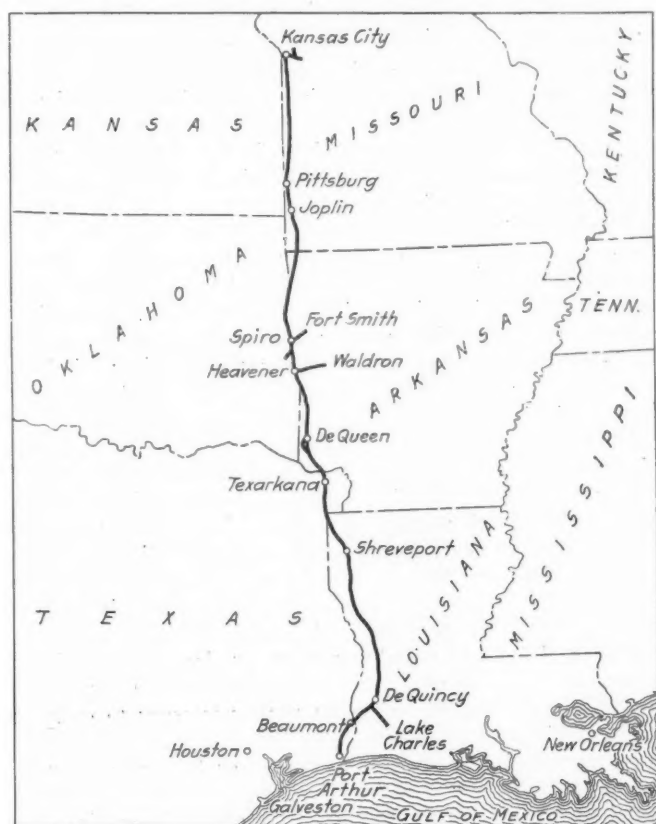
There is but one wise course for the managements of the railways, under the existing conditions, to follow. That is to fight to the last ditch, first, for reasonable reductions of their operating costs, and, secondly, against all general reductions in rates until operating costs have been reduced and traffic has increased enough to enable the railroads to earn a reasonable net return. Doubtless they will antagonize many classes of persons by doing this. They may arouse public sentiment against them. But such premature and unwarranted reductions in rates as are being advocated would wreck the railroads of the United States, financially and physically, and do the public far more harm than good. The present extremely bad railroad situation is largely due to the fact that the managers and owners of the railways have not in the past resisted vigorously enough unreasonable demands which have been made on them, and unreasonable regulation which has been forced on them. If public sentiment is antagonized, private ownership and management may fail, but it is sure to fail if the railways under private management cannot get fair and reasonable treatment.

Kansas City Southern

THE TRAFFIC HANDLED by the Kansas City Southern in the first four months of 1921—April being the latest month for which figures are at present available—was approximately equal to that handled in the first four months of 1920. This comparison, it is true, is not an entirely fair one, inasmuch as the figures for 1920 include the month of April, in which month the road's operations were severely handicapped by the outlaw strikes. Nevertheless, the fact that the traffic up to April 30 this year was on a par with that in the same period last year makes the Kansas City Southern an exception from most of the other roads of the country. It further means that the road has been able to secure, because of the higher rates now in effect, considerably better gross earnings than were secured in the early part of last year. The figures as to earnings are available to the end of May. In the period from January 1 to May 31 the gross earnings of the Kansas City Southern, including the Texarkana & Fort Smith were \$9,305,726 as compared with \$8,057,053 in the first five months of 1920. The operating expenses to May 31 were slightly in excess of those in the same period last

year. The net railway operating income of \$1,903,828 in the first five months of this year compared with a figure for the first five months of 1920 of \$985,555. This would indicate that the Kansas City Southern apparently has the present situation well in hand. The fact that the increased net is not the result of savings in maintenance of equipment and way and structures is especially noteworthy.

The Kansas City Southern operates a total mileage of 842, its lines extending from Kansas City south to the Gulf of Mexico at Port Arthur. The traffic carried by the road is indicated by the following figures showing the percentage of the total tonnage carried in 1920: Grain, 8 per cent; bituminous coal, 14.1 per cent; lumber, 21.7 per cent and petroleum and other oils, 19.8 per cent. The road has but a small branch line mileage, a factor which has permitted its progressive management to carry out a somewhat more intensive development of the property than might otherwise have been possible. The revenue tons carried one mile per mile of road



The Kansas City Southern

in 1920 were 1,989,826. The intensive development which is referred to is indicated chiefly by the average revenue train load in 1920 of 674 tons and by various other figures which are given below.

The Kansas City Southern did not earn its standard return in either of the two years of federal control. Its standard return was \$3,535,427; in 1918, it earned \$3,128,053; in 1919, \$2,189,359. In 1920 the net railway operating income was \$2,766,306. The improvement in net in 1920 as compared with 1919 was largely the result of operations during the last four months of the year. Operations during the guaranty period resulted in a deficiency under the guaranty of \$1,120,332. The corporate income account for the year, in which consideration is taken of the standard return for January and February and of the guaranty for the guaranty period showed a total net income of \$1,924,054. This compared with a net corporate income in 1919 of \$1,342,679.

The traffic carried by the Kansas City Southern in 1920,

totalled 6,135,187 tons of revenue freight as compared with 4,884,555 tons in 1919 or 5,632,481 tons in 1918. The revenue ton mileage in 1920 was 1,674,717,315. Although the total tons carried in 1920 were in excess of 1918, the revenue ton mileage was less, the reason being that the average haul in 1920 was but 273 miles as compared with 298 in the second year preceding. On this traffic the road secured an average revenue train load of 674 tons and an average revenue car load of 25.77 tons. These figures were considerably in excess of those for 1919, but they were below the figures of 677 revenue tons per train and 26.89 revenue tons per loaded car in 1918.

The interesting feature of the road's operations at present is the manner in which the figures relating to operating efficiency have held up so far this year. We have already noted that the traffic carried in the first four months of 1921 was about equal to that carried in the first four months of 1920 and that the gross and net earnings were considerably higher. For the first four months the road secured an average net tons per train, revenue and non-revenue freight combined, of 728 as compared with a figure of 716 in the first four months of 1920 or with a figure of 734 for all of 1920. The net tons per train so far this year, incidentally, have been over 100 tons higher than the figure for any other road in the southwestern region and nearly 200 tons more than the average for that region. The net ton miles per train hour—the figure which takes into consideration train speed as well as train load—was, in the first four months of this year, 7,613 as compared with an average for the region of 6,442. The Kansas City Southern's net tons per loaded car to April 30, 1921, were 28.8 and its miles per car per day 35.4. The net ton miles per car per day were 726. This latter figure compared with 648 in the first four months of 1920 and with an average for the whole of 1920 of 759. Another interesting figure is that of bad order cars. The latest figures reported—those for July 15—show that the percentage of bad order cars in the country on that date was 15.9. The Kansas City Southern is shown as having 7.8 per cent of its cars in bad order. Looking at these figures as a whole indicates that the Kansas City Southern is in an enviable position at present. It will be interesting to watch its operating figures in future months when its traffic increases with better business conditions.

The operating results in 1920 as compared with 1919 were as follows:

	1920	1919
Mileage operated		
Freight revenue	\$17,361,235	\$12,576,430
Passenger revenue	3,225,909	2,723,353
Total operating revenue	22,355,227	16,607,011
Maintenance of way expenses	3,004,632	2,527,250
Maintenance of equipment	4,322,926	3,608,203
Traffic expenses	469,949	229,545
Transportation expenses	9,231,599	6,477,872
General expenses	901,874	508,989
Total operating expenses	17,911,665	13,329,087
Net operating revenue	4,443,562	3,277,923
Taxes	957,905	846,439
Operating income	3,480,542	2,425,667

The corporate income account is as follows:

Total operating income	2,780,448	
Standard return (January and February, 1920, full year 1919)	485,919	3,536,228
Federal guaranty of income	1,120,332	3,636,425
Gross income	4,807,939	1,835,392
Interest on funded debt	1,884,277	1,342,678
Net income	1,924,054	
Dividends:		
Preferred stock, 4 per cent	840,000	840,000
Balance	1,084,054	502,679

AN ARTICLE printed in the Illinois Central Magazine for July describes the gardening activities of the department devoted to this work on that road. This department has been in operation for 20 years and there are 13 division gardeners in addition to the chief gardener, H. S. Moulder, who is stationed at Champaign, Ill. It is the aim to work not only to beautify the property of the company, but also the territory served by the railroad, the gardeners co-operating with town and city officials along the route.

Letters to the Editor

Duties Should Not Be Delegated

Boston, Mass.

TO THE EDITOR:

I have read with considerable interest the article by a Chief Clerk in the *Railway Age* of July 23. Granting the situation as it exists today I think his position is well founded. I do not wish to detract in any way from the efficiency and loyalty of the average chief clerk and I agree fully that, considering the work he is called upon to do, he is in most cases neither properly compensated nor recognized.

I believe, however, the wrong remedy is proposed. Do not give the chief clerk greater recognition (more compensation perhaps), but insist that the officers do more of their own work and not delegate authority which they should exercise. One of the chief causes of lower operating efficiency is the delegation of this authority to men who, regardless of their intelligence, efficiency and loyalty, are not, as a result of their limited outdoor experience, competent to pass upon subjects which are now left to their judgment.

We all know of numerous cases, starting in division superintendents' offices and going to the top of the railroad, where the chief clerk overrules the recommendations of responsible officers of lower grade when, in most cases, if the same facts were laid before his chief, the decision would be reversed. This tends to discouragement and lack of initiative on the part of the lower officers and decreases morale.

No recommendation over the personal signature of a responsible officer should be acted upon adversely by a chief clerk, and no letter of criticism written except after consideration by, and over the personal signature of, his superior officer.

To give the chief clerk greater recognition and a definite position in the organization would simply tend to perpetuate and increase what is already one of our greatest weaknesses.

OPERATING OFFICER.

Track Tanks for Freight Trains

Heath, Mass.

TO THE EDITOR:

The cost of train stops brings up the utility of track pans for freight trains. The track pan is usually considered as an adjunct to high speed passenger service but in view of modern conditions, would not the installation of track pans pay in certain cases purely for the purpose of eliminating freight train stops for water?

A few of the advantages may be cited. A water plug may often by necessity be located at the bottom of a grade or in a hollow. This may cause engines to cut off a mile or two from the plug to avoid stalling on the grade. Useful momentum is lost whichever way the train is bound. A track pan in this location obviates these inconveniences.

A water stop involves, besides the time lost for taking water, as much more for pumping up the train line on account of the rule on so many roads requiring engines to cut off from the trains. More air is lost than would be the case if the engine had remained coupled to the train for the reason that the brakes usually leak on so that auxiliary air is lost. As the stop is of considerable duration, the flagman probably goes back some distance. All these things make the cost of a water stop in excess of that for a stop for other purposes.

W. G. LANDON.

Assignment of Motive Power

Taunton, Mass.

TO THE EDITOR:

The recent depression in business, with a prospect of resumption of traffic in the fall, should cause motive power officers to consider carefully the assignment of their power. The question might well be asked, "Is the power assigned where it will produce the best results?"

There are at least two methods used to assign the motive power on our railroads. With one method the authority rests in the office of the superintendent of motive power. He is the man who says what engine or class of engines shall be placed on the trains. With the other method, the authority rests with the division superintendent. Certain locomotives are assigned by the mechanical department to each division and the division superintendent then selects and assigns the power while the master mechanic keeps them going.

Of the two methods, the latter is much to be preferred on a large system, as it is logical that a man who devotes all his time to the operation of a particular section of a railroad is vastly more familiar with certain conditions that exist thereon than an officer whose time cannot be burdened with many of the minor details. On a small road, however, where the number of locomotive designs is not large and where uniform operating conditions exist, it is possible that the former method may have some advantages.

Having assigned the power, the next step is to keep it on its assignment. A few years ago the writer was greatly pleased to notice on a certain road that traverses New York state the regularity with which the locomotives appeared on the various trains. A remark made to the master mechanic on this subject brought forth the reply, "Well, why not? They are given to us to run, why not give them a job and keep them on it!"

On another road when inquiring about the performance of a certain type of locomotive, one of the inspectors replied, "They double the division every 24 hours and we seldom find anything the matter with them. Yes, we try to keep them on the same service as much as possible."

On a third road that during the year frequently issues an assignment of power bulletin, before that bulletin can be received by the proper officers, it is out of date.

One road has taken its locomotives by classes and assigned them to divisions closely related in order that the storekeeper can reduce the number of spare parts necessary to carry in stock. It is no unfrequent sight for a large locomotive in passenger service to be handling three or four coaches, with the result that the cost of hauling that train over the road is certainly greater per car than had the engine been given her maximum load.

In these days when roads are applying devices which will result in economy and increase tractive effort, considerably more economy can be gained by the proper assignment of the power and the man closest to the existing conditions is certainly the ablest officer to direct the matter. Some officers think that the moment a locomotive is received from the shops she is in condition to go out on her regular run, but a wise master mechanic will warm up a freshly shopped engine gradually by placing it in local service. The old saying that oil is cheaper than crank pins and brasses still holds true.

Place as much individuality as possible in the service! A master mechanic will take more pride in his own engines and give them better care than he will a visitor, and if the number of visitors is large, the results won't be the best. It is human nature and you can't change it.

Now is the time to consider this matter before the predicted fall increase of traffic. Certainly this question is of enough importance to give it more than a passing thought.

CHAS. E. FISHER.

I. C. C. Declines to Fix New England Rate Divisions

Defendants and Complainants Expected to Appoint Committees to Work Out Readjustments

WASHINGTON, D. C.

THE INTERSTATE COMMERCE COMMISSION on July 28 made public its decision in the New England rate division case, holding that the voluminous record in the case affords no basis for a valid prescription of divisions by the commission; but that it is shown that just, fair and equitable divisions cannot, in many instances, flow from existing arrangements. Because of these conditions the commission expects the defendant carriers outside of New England and the complainant New England lines to propose promptly adjustments that will remove the inconsistencies shown, and bring into conformity with the principles of law and equity expressed in the act the divisional arrangements, individually and as a whole, between complainants and defendants. The commission recommends the appointment of committees for this purpose, to report in 90 days, and thereafter each 60 days, until the issues shall have been disposed of.

Commissioners Eastman, Potter, Campbell and McChord dissented from the majority opinion on the ground that the commission should have taken definite action for the immediate relief of the New England roads, but the majority opinion by Chairman Clark says that the financial condition of the New England roads is not measurably worse than that of some of the defendants and that the record fails to show clearly that relatively the New England lines have had exceptional handicaps which their competitors have not encountered. The opinion contains a comprehensive review of the evidence introduced regarding the condition of the New England lines. The decision is based not only upon the insufficiency of the record as a basis for fixing divisions but also on the idea that the law does not contemplate taking revenue from one road for the primary purpose of equalizing the condition of a less prosperous road.

Abstract of the Commission's Decision

On behalf of the Bangor & Aroostook, Boston & Maine, Central New England, Central Vermont, Maine Central, New York, New Haven & Hartford, Rutland, and their subsidiaries and operated lines, operating almost entirely within New England, it was alleged, in effect, that divisions accruing to them out of the joint freight rates increased pursuant to Ex Parte 74, between points in New England on their lines and all other points in the United States and adjacent foreign countries, particularly the Dominion of Canada, were and are in violation of paragraph (4), section 1, and paragraph (6), section 15, of the interstate commerce act.

The commission was asked (a) to prescribe just, reasonable, and equitable divisions for the future; (b) to require the cancellation of all joint rates and charges on traffic not moving entirely within the United States, or to authorize such other action as shall assure just, reasonable, and equitable compensation to the parties for their services in connection with such traffic; (c) to determine what would have been the just, reasonable, and equitable divisions of all joint rates and charges participated in by any of the parties hereto since the filing of the complaint; (d) to require adjustment to be made in accordance therewith; and (e) to determine a just and proper allocation among the complainants of such increased revenue as may be awarded to them.

Complainants Urged Blanket Increases

Complainants urged that the divisions be treated "as a whole," not individually; that is, that blanket increases be applied to the divisions without regard to the specific divisions of individual joint rates. They suggested, among others, the following methods by which this might be done:

(1) Graded percentages that will reflect in the various divisions a definite additional amount which the complainants should receive in excess of what they now receive, apportioned in inverse ratio to the present divisions; in other words, the highest divisions to be increased the least percentage, and vice versa.

(2) Fifteen per cent of the total amount accruing to the lines west of the Hudson river from divisions on traffic interchanged with complainants to be transferred to the latter to afford them an additional annual amount of revenue approximating \$25,000,000. This plan, it was urged, has the advantages of simplicity, flexibility, and definiteness; would permit the pooling and redistribution of the total amount among the various complainants; the amounts paid to the complainants would be in absolute proportion to the amounts received by all the defendants jointly and severally; and while the plan remained in effect, divisions of particular rates could be examined and revised until all of the divisions were properly apportioned, when the plan could be discontinued.

(3) By the use of road-to-road per cents, combined into a road-to-New England per cent, a resumption of the method of dividing rates in vogue during the period of federal control, now applicable on some traffic to New England as to which divisions have not been re-established since the termination of federal

control, and on inter-line New England traffic between the Boston & Maine and the New Haven. Under this plan such road-to-New England per cents would be worked out for each defendant on the basis of normal traffic conditions, and then appropriate changes would be made in these per cents to increase the revenue received by complainants.

It was urged for defendants that the complainants were not in reality asking the fixation of just, reasonable, and equitable divisions of joint rates, but that they sought, in substance, the transfer to them of a fixed amount to be arbitrarily deducted solely from the revenues of the carriers operating in eastern trunk line and central territories, to be "allocated" among the complainants, not in relation to the traffic which they interchange with the carriers outside of New England, but according to their failure to receive, out of the joint rates established pursuant to Ex Parte 74, a return upon the value of their property held for and used in the service of transportation as large relatively as the return received in the aggregate by defendants. In other words, that the allegation of unjust divisions is only a means by which to secure the adjustment of an alleged claim flowing from the fact that the complainants were included with certain of the defendants in a group designated by us in accordance with the provisions of the interstate commerce act. It was insisted that the commission may not erect a subgroup in a divisional case, especially one composed of these complainants alone, and consider divisions "as a whole"; that the statute limits its power to prescribing divisions "as between the carriers" parties to the joint rates and that after considering, "among other things," all of the elements specified in the act, none of which is dominating, it must determine how much each carrier shall receive of each joint rate; that the application of a general principle would obviously produce divisions which would be unjust, unreasonable, and inequitable as between the individual carriers, and that the general principles governing the prescribing of divisions differ from those observed in authorizing rates under section 15a of the interstate commerce act, principally because the latter are made to produce a fair return for the carriers "as a whole," individual rates being subject to review in separate proceedings.

The divisions exhibited by complainants were of first and sixth class rates and of some few commodity rates on so-called merchandise traffic, the arrangements applying to class rates and to commodities which are classified. Coal and coke are not classified in the official classification, and as there was no evidence with respect to the divisions of the rates on these commodities, no finding is made with reference thereto. Nor is it understood that the division arrangements exhibited were applicable to fluid milk and the edible products thereof, high explosives, fresh meat in carloads, or to short-haul transportation of low-class commodities.

With respect to commodities moving in foreign commerce, we are not asked to determine whether or not the divisions of the

rates are just, reasonable, and equitable, but to require the cancellation of all joint rates and charges on such traffic or to authorize such other action as shall assure just, reasonable, and equitable compensation to the parties for their services in connection therewith. Nothing of record bears on the cancellation of the joint rates. With respect to the divisions which now accrue to the complainants out of the joint rates with their Canadian connections, it should be observed that our jurisdiction inheres only in so far as the transportation takes place within the United States.

The "importance to the public of the transportation services of" the complainants is conceded, and of it we take judicial notice, as well as of that of the principal defendants.

"The efficiency with which the carriers concerned are operated" is impossible of determination on the record, comprehending, as it does, all common carriers in the United States that are subject to our jurisdiction. Some general evidence was offered by complainants indicating that in the units of operating efficiency the degree of improvement in New England during the last few years has been as great as or greater than in the remainder of the eastern group. The specific evidence relates mainly to the operations of the New Haven.

Special Conditions in New England

The elements which the complainants contend should or must be considered by us in determining whether their divisions accord with the provisions of the act are, their financial needs; their operating handicaps, some of the more important of which are said to flow from the terminal character of complainants' operations; the alleged disproportionate effect of recent wage increases upon their operating expenses; the increased cost of locomotive fuel and other railroad materials and supplies; per diem or freight-car hire; and the peculiar character of their traffic. It is said that complainants have very little traffic in the carriage of which they are intermediate carriers having no terminal expense; that their operations embrace large percentages of less-than-carload and passenger traffic; that they receive a larger percentage of raw materials than they forward of manufactured products; that they have little tonnage of low-grade commodities moving in volume; and that it is impossible for them to obtain as large a transportation product from a given amount of labor as is possible in other parts of the eastern group. The density of complainants' traffic is relatively low and the diversity of their routes, the diffusion of their traffic over New England, their numerous junction points, stations, branch lines, and switching yards permit only comparatively short hauls. In general, complainants endeavor to demonstrate that since the present divisions were established their costs of operation have increased relatively much more than have those of carriers in eastern trunk line and central territories.

It is asserted for complainants that they have demonstrated that the divisions they receive are inadequate "as a whole," even when tested by the standard of mileage. They urge, however, that "the amount of service rendered by the several carriers participating in a joint rate is no longer controlling," and that "mileage is no longer the yardstick by which divisions are to be measured." They urge that paragraph (6), section 15, of the interstate commerce act is revolutionary in that it subordinates the mileage haul and stresses certain other specified considerations which have no relation thereto, and that the provision that those factors shall be considered by us "without regard to the mileage haul" is, in a sense, the most important change in the law in respect of our power over divisions.

Locally, the needs of the New England carriers have had our consideration before. We have recognized the peculiar local transportation difficulties encountered by the New England lines.

It is insisted for defendants that if special difficulties exist in New England it must be that they flow, not from the traffic interchanged with the connections of complainants, but from local conditions. Complainants' principal statistical witness states that the high proportion of traffic local to New England may have an adverse effect on operating costs. Obviously, all interchange carload traffic originated by the complainants in New England destined to points throughout the remainder of the United States and in the Dominion of Canada must be distributed by the defendants; all interchange traffic from points outside of New England delivered by the complainants must have originated at some point on defendants' lines, and the expense of furnishing cars and other expenses incident to its origination must have been borne by one or more of them. Inasmuch as the volume of interchange tonnage into New England considerably exceeds the outbound movement, the defendants must have the expense incident to originating and furnishing cars for a larger proportion of the interchanged traffic, and it must follow that it is usually less difficult for the shippers on the complainants' lines to be supplied with empty cars. It also follows that complainants have the expense of returning many cars without load to defendants.

There is no break of bulk of carload shipments during the transportation, and therefore the type of the car, the commodity, the weight of the load, and many other incidents of the through joint haul must be the same within and without New England. Defendants assert that the only conditions peculiar to New England are (a) a high proportion of passenger-train mileage to total train mileage, which prevails only in the densely populated section of southern New England; (b) the high proportion of less-than-carload freight as compared with the total tonnage, which must be transferred and handled en route by the defendants with a constantly decreasing load as the haul increases; (c) the substantial volume of traffic moving by water from and to New England owing to the concentration of about 73 per cent of the population within 50 miles of the coast line, the remainder of the territory being more sparsely settled; (d) the fact that New England is contiguous only on the west to eastern trunk line territory; and (e) the character of the products of New England manufacturers. These peculiarities, in the view of the defendants, afford no warrant for increasing divisions of joint rates, and for them it is asserted that the conditions in New England are in other respects essentially like those in other territories.

The distinctive transportation characteristics of New England, complainants contend, should here be given controlling weight. However, it is their view that we must consider as the dominant factor "the amount of revenue required to pay their respective operating expenses, taxes, and a fair return on their railway property held for and used in the service of transportation."

New England Roads and Other

Eastern Carriers Compared

Based on a property investment of \$838,274,769 of the seven complainant roads as of October 31, 1919, it is estimated that they obtained a net railway operating income for the year ended June 30, 1920, adjusted, of \$8,696,666, a return of approximately 1.04 per cent on the property investment. Their fixed charges, based on the same adjusted year, were \$34,783,380; their non-operating income, \$7,170,256; and their "net" fixed charges \$27,613,124. Thus, the complainants show that they failed to meet their fixed charges for the year ended June 30, 1920, by \$18,916,458. Taking the actual results of the first four months of a year ending August 31, 1921, and estimating the remainder of the year therefrom, complainants forecast that they may fail to meet their fixed charges for the year 1921 by \$27,386,975. This estimate attempts to make allowance for diminution in traffic. The results of operation for the months of September and October, 1920, indicate that traffic fell off and that the net income for those two months, after the payment of fixed charges, was a deficit of \$3,591,183.

The property investment shown by the complainants includes \$40,213,406, alleged to represent the value of the contract rights of the New Haven in the New York terminals of the New York Central, and about \$8,500,000 for the investment in the Portland Terminal Company, which is controlled by the Maine Central through ownership of the entire capital stock. The preliminary reports of our bureau of valuation indicate that the cost of reproduction new of the lines of complainants was \$760,195,671, and the present value of land \$161,229,938, a total of \$921,425,609.

The ratios of net railway operating income to property investment of five of the complainants and of the principal lines in the eastern group other than such New England lines for the years ended June 30, 1913, to 1917, inclusive, and the calendar year 1919, and the ratios of deficit to property investment for 10 months of 1920, are shown in the following statement:

	1913	1914	1915	1916	1917	1919	1920 (10 months)
New England	4.88	3.82	4.75	6.01	5.68	1.02	3.10
Eastern group less New England	5.10	3.79	4.20	6.43	5.63	1.84	1.92

¹ Ratio of deficit.

The property investment upon which the ratios are based excludes materials and supplies. On the surface the statement does not indicate that in periods prior to the recent large increases in wages and rates these complainants were weak roads as compared with the defendants in the eastern group. Comparing individual roads, it may be observed that the Central of New Jersey, the Erie, including the Chicago & Erie, the Pennsylvania, lines east as well as lines west, the New York, Ontario & Western, the Delaware & Hudson, and many others outside of New England earned a less per cent of their standard return during the period of federal control than did the New Haven, and that in several instances the percentage of operating income to property investment for the first 10 months of 1920 for some of the direct connections of the complainants showed a deficit greater than the average for all the New England roads.

During the pendency of Ex Parte 74 our attention was directed to this contention of the lines in New England and to the fact that an average percentage increase for official classification territory as a whole would not meet the needs of the New England cars.

riers. We found, however, with certain exceptions, that general percentage increases made to fit the needs of the groups of lines serving each of the four groups designated by us must be considered for the then present purposes the most practicable, without prejudice to any subsequent finding in individual situations, stating that—

While the New England carriers are included in the eastern group and are subject to the percentage for that group, the evidence as to the disproportionate needs of the New England lines makes it desirable that the carriers give careful consideration to the divisions of joint rates accruing to these lines.

A brief and necessarily general outline of the basis for the allegation of paragraph VIII of the complaint follows: New England, located in official classification territory, was included in the eastern group, the boundaries of which are practically coterminous with those of official classification territory. The complainants do not contend that New England was included therein without their consent, nor do they ask that it be separated therefrom. For rate-making purposes, official classification territory had been subdivided into New England, eastern trunk line, and central territories. The financial needs of the carriers, estimated in part, were based upon statistical data derived from questionnaires sent to the individual carriers, their original proposals not having made allowance for the wage award made by the United States Railroad Labor Board July 20, 1920, after the close of the hearings. Data for 51 Class I systems, 39 Class II, 30 Class III, and 24 switching and terminal companies were considered in the proposals for the eastern group.

After our decision in Ex Parte 74, the assertion of the New England carriers that they had lost and the other carriers in the eastern group had gained by the inclusion of New England in that group was considered by a conference of the executives of the eastern roads. For informal discussion data taken from the questionnaires for a constructive year ended October 31, 1919, were assembled separately for the complainants and the Boston & Albany; for Class I roads in eastern trunk line territory; and for Class I roads in central territory, the other classes of roads being excluded. From these data it was computed by an expert of one of the defendants that the eight New England carriers, the eastern trunk line carriers, and the central territory carriers, prior to the wage award of the labor board, required to produce a net return of 6 per cent on their property investment, increases in their freight and switching revenues amounting to 47.407, 29.767, and 24.431 per cent, respectively. All of the carriers in the eastern group, considered "as a whole," required an increase of 29.461 per cent, but if the carriers in eastern trunk line and central territories had been embraced in a separate group, they would have needed only 27.981 per cent increase. Accordingly, complainants contend that, due to their inclusion in the eastern group, they lost, and the other carriers in the group gained, 1.48 per cent of the total freight and switching revenues prospectively derivable from the increases allowed in Ex Parte 74. Stated more specifically, the freight and switching revenues of the eight New England carriers for the constructive year were \$136,298,531, and they needed 47.407 per cent of that amount in addition, or \$64,615,799. Mathematically they received, or will receive, only the average per cent for the group as a whole, 29.461 per cent, or \$40,150,939, a difference of \$24,464,860, or 17.946 per cent.

Of the above amount defendants' expert computed that about two-thirds was gained by the eastern trunk lines and about one-third by the central territory carriers. On this statistical basis the eastern trunk lines, considered as a separate group, also suffered by their inclusion in the eastern group to the extent of the difference between the per cent their freight and switching revenues needed to be increased, 29.767 per cent, and the per cent of the group as a whole, 29.461 per cent, and the central territory carriers benefited to the extent of the difference in the per cent of their needs, 24.434, and the per cent of the group as a whole. In other words, theoretically the eastern trunk lines, by their inclusion in the eastern group, lost \$3,374,276 and the central territory carriers gained \$27,811,393.

However, the so-called Pocahontas lines are also within the eastern group. Had these lines been excluded, the eastern group lines as a whole would have needed to have their freight and switching revenue increased 30.586 per cent to produce a net return of 6 per cent on their property investment and, statistically, as the Pocahontas lines needed their freight and switching revenues increased by 15.729 per cent, they gained \$18,598,904 by being in the eastern group. On the adjustment proposed by the complainants the Virginian Railway would contribute \$152,398, although, by its inclusion in the eastern group, it theoretically lost \$1,981,168. The statistics of the so-called Allegheny region lines, so presented in Ex Parte 74 indicated a need for increases in their freight and switching revenues of 36.126 per cent. The application to them of the common percentage of the eastern group resulted in a theoretical loss to the Allegheny region lines of \$36,244,058.

The data upon which the complainants contend they lost and

the defendant eastern trunk line and central territory carriers gained 1.48 per cent of the total freight and switching revenues were incomplete. The complete figures presented to us in Ex Parte 74 indicate that the revenue needs, excluding amounts to be raised from passenger-train service, passenger revenue, excess baggage, Pullman surcharge, and milk, were for all roads in the eastern group 39.75 per cent of the total freight and switching revenue, while the revenue needs, including the revenues from passenger-train service, for the defendants was then 38.55 per cent of their freight and switching revenue, a difference of 1.2 per cent of the total freight and switching revenues, or \$20,377,678, approximately \$4,000,000 less than the amount claimed by the complainants. If the Pocahontas lines had been excluded from the eastern group the remainder of the lines in the group would have needed their freight and switching revenues increased 40.95 per cent, or 1.2 per cent more than the group as a whole required. In other words, what the complainants lost theoretically the Pocahontas roads gained. The complainants are located in the north-eastern part of the eastern group and the Pocahontas lines in the western part. They do not directly connect, and the amount of tonnage participated in under joint rates to or from New England is negligible. This fact is significant only in that it suggests that there is not necessarily a relation between the prayer of the complainants for increased divisions and their claim for adjustment of earnings due to their inclusion in the eastern group. The amounts by which the lines west of the Hudson river are alleged to have benefited by the inclusion of the New England lines in the eastern group bear no relation to the traffic which they interchange with the complainants.

It is contended for defendants, however, even assuming that the theory of complainants has merit, that the total of \$24,464,860 should not be assigned to the interchange traffic alone, but should be apportioned among the various classes of traffic, as follows: Local, \$3,701,533, or 15.13 per cent; interline New England, \$2,358,413, or 9.64 per cent; interline Canadian, \$1,091,133, or 4.46 per cent; New England passenger, \$8,335,178, or 34.07 per cent; and interline trunk line, \$6,329,059, or 25.87 per cent; Boston & Albany, \$2,649,544, or 10.83 per cent. It is defendants' view that, if there is any merit in complainants' contention that their inclusion in the eastern group benefited the other carriers in that group, the extent of alleged benefit should be measured by the total per cent of the deficiency to total operating revenues and not by the per cent of the deficiency to freight revenues. Thus measured the inclusion of the complainants' lines increased the needs of the carriers in the eastern group from 32.71 per cent to 33.28 per cent of the total operating revenues, a difference of 0.57 per cent. The total operating revenues of the carriers in the eastern group for the constructive year ended October 31, 1919, were \$2,585,316,615, of which 0.57 per cent is \$13,488,748, and defendants assert that this amount represents the theoretical benefit rather than 1.48 per cent of the freight and switching revenues, or \$24,464,860, as stated by the complainants.

Based on their needs when application was made in Ex Parte 74, and disregarding the downward trend of traffic and revenues since that time, 21 carriers in the eastern group may earn more than 6 per cent on their property investment because the required percentage increases of their freight and switching revenues were less than the required percentage of the eastern group as a whole. The amount of their contribution to the 1.48 per cent would be \$11,337,717. However, under the provisions of paragraph (6) of section 15a of the interstate commerce act, if any carrier receives for any year a net railway operating income in excess of 6 per cent of the value of the railway property held for and used by it in the service of transportation, one-half of such excess is recoverable by the commission for the purpose of establishing and maintaining a general railroad contingent fund. Hence 50 per cent of the return in excess of 6 per cent, if earned, would not be available in any adjustment with the complainants covering the past, although it would be available for the future.

Rate Increases Did Not Bring Estimated Return

In their original applications in Ex Parte 74 the carriers proposed general percentage increases in freight rates in the eastern group of 30 per cent. After the wage award they filed an amended application. We estimated, based on data furnished by the labor board, that the wage award would be equivalent to 12.2 per cent of the total railway operating revenues of the eastern group carriers. We approved increases in the eastern group of 40 per cent for freight service, including switching and special services; 20 per cent in passenger fares, excess-baggage charges, and rates on milk and cream; and authorized a surcharge upon passengers in sleeping and parlor cars of 50 per cent of the charge for space in such cars, such charge to accrue to the rail carriers. Joint or single line through rates between points in one group and points in other groups were permitted to be increased 33½ per cent.

The increases on freight traffic for the roads in the eastern

group did not average 40 per cent. Complainants estimate that they actually received or will receive 37 per cent increase instead of 40 per cent. Principally because of the interterritorial percentage increase having been made $33\frac{1}{3}$ per cent, the refusal of certain states to permit increases in intrastate rates equal to those we authorized for interstate traffic; and the continuance of fixed differentials, it is estimated that the increases for roads in the eastern group other than the complainants will be freight, 36.06, and passenger, 18.08 per cent. The acquiescence of the New England lines in being treated as a part of the eastern group and in receiving no more than the uniform percentage increases for the group as a whole was undoubtedly due to the fear on their part and on the part of the shippers in New England that a larger increase of rates, corresponding to financial needs, in New England than in the remainder of the eastern group would injure industry and traffic. The complainants and the defendants may be said to have been joint participants in a common undertaking, i. e., to have their rates increased uniformly. Prescribing rates as a whole in rate groups necessarily means that the return will not be the same for each carrier. Complainants admit that the eastern trunk line and central territory carriers can not be legally required to transfer directly to them an equalizing amount, but claim that this may be accomplished indirectly through a change in the divisions of joint rates.

New England Roads Originate or Deliver

Large Percentage of Traffic

Complainants particularly emphasize another of the statutory considerations for the determination of just, reasonable, and equitable divisions: They are either originating or delivering carriers in respect of the largest percentage of their traffic. For example, it is stated that 93 per cent of the traffic of the New Haven begins or ends on its line. Advance in transportation has been more marked in train service than in terminal services, or the latter has not kept pace with the former. Complainants contend that New England, particularly the dense manufacturing sections of Connecticut, Rhode Island, Massachusetts, and southern New Hampshire, containing 3,400,000 people, or 3.25 per cent of the population of the United States, is in effect a large terminal or railroad yard, and much of their evidence is directed to demonstrate the relatively high costs inherent in that condition.

Based on property investment figures submitted in Ex Parte 74 of \$833,583,558 for New England lines, other than the Canadian Pacific lines in Maine and the Boston & Albany, and of \$8,327,377,457 for the eastern trunk and central territory lines, it is shown that those investments are, respectively, \$109,480 and \$145,026 per mile of road. The investment per mile of road for the New England lines is 75.5 per cent of that for the eastern trunk and central territory lines. Based on a separation of operating expenses between freight and passenger train service, however, it is shown that the freight proportion of operating expenses was 63.03 per cent for these New England roads and 76.27 per cent for those in eastern trunk line and central territories, making the freight service proportion of the property investment, based on operating expenses per mile of road, \$69,006 for these New England roads and \$110,611 for the eastern trunk line and central territory roads. The revenue ton-miles of these New England carriers for the calendar year 1919 were 37.6 per cent per mile of road of the revenue ton-miles of the eastern trunk line and central territory carriers, and the property investment per 1,000,000 revenue ton-miles per year was, per mile of road: New England, \$58,005; eastern trunk line and central territory, \$34,958; the former being 165.9 per cent of the latter, the result, it is said, of the lower density of traffic, the greater density of terminals, and the shorter haul. On this basis, the net operating income must assume a 66 per cent greater carrying charge per ton-mile for these New England roads than for eastern trunk line and central territory carriers. This is a rough average and admittedly an indicative approximation only.

The major operating handicaps, interrelated and overlapping each other, of the complainants in comparison with operations in eastern trunk line and central territories, each of which is said to embrace factors largely beyond the control of complainants, may be summarized under four general headings: (a) diversity of routes and diffusion of traffic, (b) low freight traffic density, (c) terminal characteristics, and (d) short hauls.

The Commission's Conclusions

After a discussion of these and other points the conclusions of the majority are stated as follows:

We think that there is merit in the allegations of defendants that the proceeding is, in substance, an effort on the part of complainants to augment their revenues from traffic which they interchange with their connections without regard to the question of whether the present divisions of the various joint rates are fair and reasonable or considerate of the probable effects upon the

revenues of the respective defendants. The proceeding is essentially an outgrowth of Ex Parte 74. It is contended for complainants that our decision in that proceeding operated to the relative disadvantage of the New England lines because their inclusion in the eastern group gave them less additional revenue and defendants more than might otherwise have been received and because of the difference in the percentage increases authorized for freight and passenger traffic, respectively, the lower percentage of increase having been authorized for passenger traffic, which is, generally speaking, relatively greater on complainants' lines than on the lines of defendants.

At the close of complainants' case defendants moved to dismiss the prayer for relief under paragraph VIII on the ground that we are without power to grant such relief. They moved also to dismiss other portions of the complaint, alleging that complainants had failed to make out a *prima facie* case and had not offered proof that would entitle them to the relief prayed. We shall, however, deal with the issues upon the record made.

In no proceeding heretofore brought under the provisions of the interstate commerce act have we been called upon to exercise powers so broad as those upon which complainants here rely. We may, therefore, fittingly advert to the controlling principles of law, illumined in the event of possible doubt by cardinal rules of statutory construction.

Under the substantive provision of section 1, paragraph 4, of the interstate commerce act, there rests upon every common carrier subject to the act the duty, in the case of joint rates, fares, or charges, to establish just, reasonable, and equitable divisions thereof as between the carriers participating therein which shall not unduly prefer or prejudice any of such participating carriers. A reasonable construction of the statute makes clear the intent of Congress that paragraph 4 of section 1 and paragraph 6 of section 15, taken together, should supersede former provisions of the statute and constructions placed thereon with respect to divisions of joint rates, whether established voluntarily or pursuant to our finding or order. It follows as a necessary corollary that we must be guided by the intent of Congress as expressed in the provisions of the present statute.

Under the provisions of paragraph 6, section 15, of the act we are authorized in appropriate cases, after full hearing, to prescribe by order the just, reasonable, and equitable divisions of joint rates, fares, or charges to be received by the several carriers. Our jurisdiction attaches irrespective of the manner in which divisions theretofore prevailing were established. And our duty to prescribe divisions arises when, after full hearing, we are of opinion that the divisions brought in issue "are or will be unjust, unreasonable, inequitable, or unduly preferential or prejudicial as between the carriers parties thereto." In so prescribing and determining divisions of joint rates we are required to give due consideration, among other things, to the efficiency with which the carriers concerned are operated, the amount of revenue required to pay their respective operating expenses, taxes, and a fair return on their railway property held for and used in the service of transportation, and the importance to the public of the transportation services of such carriers and also whether any particular participating carrier is an originating intermediate, or delivering line, and "any other fact or circumstance which would ordinarily without regard to the mileage haul, entitle one carrier to a greater or less proportion than another carrier of the joint rate, fare, or charge." Under the provisions of the section no one of the elements which we are required to consider is predominant; all are to be considered *per se* and relatively in the determination of just, reasonable, and equitable divisions "to be received by the several carriers." The words "without regard to the mileage haul" do not forbid consideration of the element of distance. They serve rather to emphasize the fact that other specified elements may outweigh the element of distance in which event we may properly disregard the mileage haul. The clause is inclusive rather than exclusive, and the general words "among other things" constitute a clear exposition of the intent of Congress that we should consider all the facts and circumstances. We are bound under the statute to determine whether divisions properly in issue justly, reasonably, and equitably compensate each carrier, relatively and *per se*, for the service it performs in the joint haul under joint rates, fares, and charges. Our determination must be predicated upon a consideration of all the various pertinent factors including the ability or disability of the several carriers to adequately, economically, and efficiently meet their common-carrier obligations. In the final analysis the just measure of divisions is the reasonable and equitable share of the revenue earned under the rates to be divided which each carrier should receive.

By evidence of costs reflected largely in units of miles, ton-miles, locomotive-miles, and switching-miles, complainants endeavor to show that the cost of transportation over their lines is relatively greater than that incurred by defendants. The voluminous record upon which the case is submitted is replete with evidence of peculiar local conditions in New England and the

consequent relatively higher cost of conducting services for which complainants allege they are not justly, reasonably, and equitably compensated, with the result that their financial needs are not met.

Complainants as Strong

Financially as Some Defendants

It may well be that complainants are operated as efficiently as are other carriers; the importance of their service to the public in the highly developed territory which they serve can not easily be exaggerated; but their financial condition is not measurably worse than that of some of the defendants. The public interest does not demand nor does the statute either expressly or by reasonable implication provide that we may prescribe increased divisions of joint rates, fares, and charges to be received by certain carriers merely because other carriers participating in the joint rates, fares, or charges considered as a whole, have not failed in so great a degree to earn a fair return upon the value of their property devoted to the public service, although this is one factor which may be taken into consideration. Nor are we vested with discretion by virtue of which the mandate of section 1, paragraph 4, that divisions of joint rates, fares, and charges as "between the carriers" participating in joint hauls shall be just, reasonable, and equitable might be made ineffective by administrative or judicial action. The remedial provisions of paragraph 6, section 15, of the act offer to the carrier a source of relief to which it may resort in the event of a failure to observe the substantive provision of section 1, paragraph 4, or in the event of a failure to agree upon divisions and indicate the facts and circumstances which the Congress intended should be considered in determining what is "just, reasonable, and equitable."

No Equitable Measure of Division Offered

In the view of complainants, we have "ample power to readjust these divisions by adding to the divisions of the New England lines without in this proceeding attempting to readjust the division between lines west of the gateways." It is submitted for complainants that "the New England lines are entitled to divisions 33 1/3 per cent in excess of what they now receive" notwithstanding admissions that divisions of certain joint rates now received by complainants are reasonable and equitable and that the present blocking of divisions in New England is a "mess of inconsistencies" and must be almost entirely rebuilt. No evidence of the reasonable and equitable measure of divisions other than "as a whole" has been offered. No method by which the apparently incongruous plan of divisions now in force might be readjusted has been submitted and we are thus left to deal with the situation in the light of generalizations which can lead only to speculative ventures upon an unknown field. The various methods which have been suggested to alleviate the financial condition of the New England lines and to insure to them just, reasonable, and equitable divisions indicate in themselves the uncertainty of their application and it is apparent that if adopted they would not only perpetuate the inconsistencies to which complainants refer but would create new preferences and prejudices.

For defendants it is contended that the failure of complainants to submit any evidence of the divisions on coal traffic, irrespective of those on other commodities which have been heretofore enumerated, is fatal to complainants' request for blanket relief since we can not know whether the divisions on coal and the other traffic are more or less than those to which the complainants are entitled and if it might be assumed that the divisions on the merchandise traffic are "as a whole" unjust and unreasonable, we have no evidence upon which to base an opinion as to whether the deficiency is or is not met from the revenues on coal.

Unfair to Treat Complainants as a Whole

To treat the complainants "as a whole" or as a group would disregard the differences which obtain between the complainants individually. Much of the evidence adduced was solely in behalf of the New Haven and manifestly has no application to conditions on the Bangor & Aroostook, the Central Vermont, or the Rutland. The conditions obtaining on the lines of complainants are so essentially dissimilar that general relief would not afford each of them reasonable and equitable divisions.

The terminal characteristics of the New England lines have long been recognized, and complainants show that constructive mileage and arbitraries have been allowed them in partial recognition of their terminal character. A witness for complainants testified that during the last 15 years there has been no substantial change in the characteristics of the New England roads, and, as has been seen, we permitted material increases in the class rates in New England which reflected the terminal characteristics of their roads. To what extent the constructive mileage and arbitraries recognize in the joint rates the terminal characteristics of the New England lines is not capable of accurate ascertainment from this record; whether or not they are reflected in such rates

is doubtful, since for many years, for example, transcontinental rates have been blanketed over wide areas, and, despite the additional haul to New York, westbound rates from Boston and points north thereof are on the same basis as those from New York. Eastbound, the rates to Boston and numerous points grouped therewith are differentially from 7 to 2 cents per 100 lbs., first and sixth classes, higher than to New York. None can question but that these rate adjustments among others are to the interest of New England. Whether they are reasonable or unreasonable is not in issue in this proceeding. Our power is limited to dividing the available rates; otherwise the additional costs of a particular carrier not reflected in the rate might leave no division for another carrier.

The age of the divisions affords no presumption that they are unreasonable; it may be that they were too liberal originally. The record fails to show clearly that relatively the New England lines have had exceptional handicaps which their competitors have not encountered. We are told that it cost the New England lines \$17,646,168 a year to have per diem substituted for mileage as the basis for car hire, but no complementary statement is offered with which this amount can be compared. It is shown that New England is remote from the coal fields and that the New England roads must pay for the transportation of coal and other materials and supplies more than their connections pay, but there is nothing in the record to indicate that relatively these costs have increased to a greater extent than have similar costs in other territories. The relatively high proportion of passenger traffic on the principal New England roads has been especially stressed, but how that high proportion should be translated into increased divisions of freight rates for the complainants is only vaguely and indefinitely indicated. The effect of the cost of labor in New England has been stated in gross amounts, and the alleged exceptional effect of such costs has been expressed in percentages for certain roads, but it may be that defendant roads operating in sparsely settled communities were also adversely affected by wage increases.

Complainants' Evidence Not Complete

If it had been clearly and definitely shown that particular divisions assailed were but fair compensation for the service performed when they were established and that since the establishment complainants have been subjected to relatively exceptional operating expenses of permanent character, some basis for an adjustment by us of the divisions of joint rates as between the several carriers participating therein would have been indicated if those exceptional expenses were reflected in the rates. Mounting operating costs, with which revenues have not kept pace, have been general. The voluminous, but yet limited, character of the divisions submitted; the selection of the points between which the divisions apply; the dividing of the rates only at the gateways; the almost total lack of the reasons which impelled the making of divisions via one gateway lower than via another; the doubt cast upon the reasonableness of the allowances and the arbitraries; the varying amounts of constructive mileage received by the complainants; the extent of the groups; the inconsistency of the division blocking; the failure of the Bangor & Aroostook to show any of its divisions; the fact that the Maine Central receives terminal arbitraries and arbitrary proportionals on much of its traffic; the failure to submit divisions on coal, high explosives, fluid milk and its edible products, fresh meat, in carloads, and other commodities; the absence of concrete final cost figures and indispensable facts, and, generally, the submission of much unrelated data, have resulted in a record that affords no basis upon which we might predicate a valid prescription of divisions. We are authorized to prescribe only just, reasonable, and equitable divisions "to be received by the several carriers." Full hearing and competent and relevant evidence are prerequisite. Any attempt to prescribe a blanket increase of divisions as here sought in the face of admissions and uncontradicted evidence that certain divisions are now just, reasonable, and equitable to complainants would override the plain mandate of law.

Some New England Roads Among Defendants

While we are urged to adjust the division "as a whole" on the presumption that the facts shown of record as to a part of the complainants are generally true as to all of them, and that they reflect the situation in New England, it is to be noted that some of the roads in New England have been excluded from the list of complainants and included in the list of defendants. To so deal with the situation would not be treating the New England roads as a group. It would be taking from one road and giving to a less prosperous road, thus doing by indirection what the Congress deliberately and specifically refused to authorize us to do. The statutory provision for recapture of excess earnings from individual carriers also clearly negatives the idea that the Congress contemplated or intended that all carriers in a group should

so share in the aggregate earnings of the roads in the group that all would be upon an equality. Such a plan would stifle all incentive to skill, efficiency, economy, and good management.

However, the record lays before us an existing condition of divisional arrangements which is the antithesis of equality, unity, system, or order. A plan of transportation practices so fraught with incongruities and from which, as indicated by one of counsel, anything might be proved by a judicious selection of items, is indefensible. While the record affords no foundation upon which might rest a valid prescription by us of divisions, we can not disregard the conditions portrayed. Our duty would not be fully performed if we did not require a readjustment under which the conditions shall be relieved and demonstrably fair treatment accorded to all parties with respect to individual divisions. We are convinced, upon consideration of all the facts, that just, fair, and equitable divisions can not in many instances flow from the chaotic divisional arrangements to which we have adverted. We shall expect defendants and complainants to promptly submit to us proposed readjustments that will remove the inconsistencies portrayed of record and bring into conformity with the principles of law and equity expressed in the act the divisional arrangements, individually and as a whole, between complainants and defendants. To this end designation by the parties of appropriate committees of qualified personnel is recommended, and we shall expect the appointment of such committees to work jointly in revision of the divisions and to report to us at the end of 90 days after the date hereof the results of their efforts, together with statements of divisions upon which agreement has been reached, as well as those upon which there may not be complete agreement. Such statements may be accompanied by statements of fact and argument upon which the respective committees rely. Thereafter reports should be made to us at the end of each period of 60 days until final and complete disposition of the issues shall have been accomplished. For these purposes the record will be held open.

Commissioner Eastman Dissents

Commissioner Eastman said in part:

Throughout the majority report runs the criticism that complainants ask revision of their divisions "as a whole." If the New England carriers were to obtain relief in this proceeding which would be of avail against impending financial danger, it was necessary for them to move quickly and deal broadly with the situation. They merit no criticism for so doing, and in my opinion they have made out a case justifying temporary relief pending more detailed consideration of specific divisions. In this case I fear that the majority are construing certain vital provisions of the act in a way that will make it a less effective instrument than it was designed to be for the promotion of the general transportation good.

The critical financial condition of the New England roads, in which the United States has an investment of some \$125,000,000, is a matter of common knowledge. For some months they have been failing to earn fixed charges. It is at least possible that only some measure of success in this proceeding will save certain of these carriers from serious financial trouble. If the danger is not averted results will follow of direct and serious concern to the whole country. Not only will it be deemed proof of the failure and futility of the transportation act, 1920, but for years it will discourage investment in railroad securities in a part of the country which has been one of the great markets for such securities.

Acute Conditions Call for Action

These results will be the more certain and severe because the financial trouble will be due to failure to earn upon legitimate investment. New England railroads have a reputation for financial mismanagement which is only in part well founded. The New Haven was the chief victim of this mismanagement, and it consisted in the waste of many millions of dollars in the purchase of securities of trolley, steamship, and other companies. But the investment of the New Haven in physical railroad property is sound, and if it earns a return on that investment it can at least pay its way. Its present difficulty is in earning even operating costs.

It is, I think, an inevitable conclusion that Congress intended to give us a wider jurisdiction and discretion in determining divisions than would have been proper if such determination were viewed merely as an isolated problem. In other words, divisions were regarded in connection with and as a phase of the larger problem of assuring a national transportation system sound and healthy in all its parts, and it was the definite intent to permit us, in fixing divisions, to take into consideration this larger end. In the hearings which preceded the transportation act, 1920, attention was continually directed to the problem of the weaker roads. It was realized that the rule of rate making in section 15a would produce uneven results and leave this problem unsolved. While Congress was unwilling to go so far as to authorize the

direct diversion of the excess earnings of the strong roads for the benefit of the weak, it did deem it wise and expedient to permit, and indeed require, the relative prosperity of carriers to be taken into consideration in determining the divisions of joint rates. Nor was this a means of doing indirectly what Congress was unwilling to do directly. It was, rather, a means of going part way along the path suggested without traveling the full distance.

"Financial Needs" Should Be Given Consideration

I find no difficulty, therefore, in reaching the conclusion that in this case we have both the right and the duty to consider, not only the relative importance and cost of the service rendered by the respective carriers, but also the *financial needs* of the New England roads and the consequences to the entire country if they should meet with serious financial trouble.

A second vital question of law is whether we have authority to make a temporary adjustment of divisions pending a further and more detailed consideration of the problem which they present, consuming many months of time. It is good administration to act quickly when the public interest demands, upon the best evidence available, even if we know that readjustments may be necessary before the problem under consideration is finally put to rest.

I think it a logical conclusion, therefore, that we are not without power to prescribe a temporary adjustment of divisions where we know that further inquiry may be necessary before stability and permanence can be attained, if good administration of the national transportation interests calls for "prompt action" and the best measure of relief that can presently be afforded. It should here be noted that while interchange traffic with defendants is a very large factor in the revenue of complainants, the interchange traffic of any one of the defendants with complainants is but a minor factor in its revenue.

Temporary Adjustment Recommended

My conclusion is that we may and should require a temporary adjustment of the divisions in favor of the New England lines, keep the case open, and direct the parties to reopen negotiations and be prepared to renew the trial of the case at or before the expiration of one year if they are unable to agree among themselves as to a permanent adjustment in the meantime. As I have tried to show, the record will support such temporary relief either upon the theory of financial needs or upon the theory of changed conditions, or upon a combination of the two. The evidence is insufficient to measure the effect of the changed conditions accurately in dollars and cents, but it is not insufficient for a conservative estimate, and partial reliance upon financial needs makes even this unnecessary.

Stated concretely, my judgment is that the least we should do is to require the carriers west of the Hudson for a period of 18 months, unless otherwise ordered, to shrink their divisions by 15 per cent on all interchange traffic, except coal, with complainants, this amount to be added to the divisions of the New England lines. Coal must be excepted for the present, because no evidence has been introduced in regard to the divisions on this traffic, and complainants have themselves asked that we allow the case to remain open for the submission of further evidence on this point.

The plan thus suggested would probably help certain New England carriers more than others, but they would have it within their power to correct such result by adjustment of their own interline divisions, and we could with propriety suggest that this be done.

Commissioner Potter's Dissenting Opinion

Commissioner Potter said in part:

I can not concur in the majority report, which seems to me needlessly to concede the futility of the transportation act and the impotence of the commission to remove injustice. I concur generally in the views expressed by Commissioner Eastman.

The transportation act has settled the carriers upon the high plane of public service. The aspect of private business enterprises, entitled to all they can win from their position and strength, limited only by what the traffic will bear, is no longer dominant. Subject only to supreme decree on constitutional questions their revenues are to be limited to fair compensation for the services which they render. The Congress has expressly applied to them the rule which, in the present day, must be recognized with increasing application to all industries—that enterprises are justified primarily, not for individual gain, but because the public needs them and those who thus serve the public are entitled to receive as profits fair compensation for the service which they render.

As public servants carriers are to have public protection and fair compensation. Having regard to the essential function which they perform, the railways which are honestly, economically, and efficiently managed are entitled to a status and relation to indus-

try and to each other which assures them prosperity. To these ends the transportation act was framed. We have been given the power to work out the detail of rate adjustment to yield the compensation which the Congress has determined shall be provided. We are authorized to act in helpful ways in matters of operation. We are charged with the duty of enforcing correct adjustments between carriers in their joint relation and of requiring the application of the rule of right instead of power. We must see that through rates are fairly divided, and we must find a way to bring this about. We are not a court to dismiss for want of proof. We must ascertain the facts, and we have all necessary means. We must correct injustice when and where we find it and as we can. With one accord we have condemned the existing adjustment. We should now correct it. Commissioner Eastman has pointed a way, and we should follow it.

The effect of including the New England lines in ascertaining the values of the railways in the group and the earnings needed, to make up the deficit below a fair return, as a basis for determining the amount and percentage of rate advance was to increase the percentage which was accorded to the other lines beyond what it would have been if only the values of their own lines had been considered. The other lines are enjoying not merely the increases that their own values entitled them to, but something additional resulting from the value and deficit of the New England lines. Large sums which the public pays, in rates and charges, because of the value and deficit of the New England lines are going, not to them, but to the other lines in the group. The effect of this is to give to the other lines more than they are entitled to under the theory of the transportation act and to give to the New England lines correspondingly less than they should have. This wrongful diversion of earnings is represented by an ascertainable percentage of all earnings on through business, which are being withheld from the New England lines as a whole and given to the other lines in the group as a whole. This percentage should be taken away from the other lines and given to those in New England, and this can be done by a percentage readjustment of divisions within the group as between the lines east and west. The task involved is one of accounting, and if we would announce the principle the carriers could readily apply it. I have complete confidence in their ability and purpose to apply the rule that we announce.

Beyond the direct unmerited contribution which the New England carriers have made and are making to the other lines, as the result of our application of the rate-making provisions of the transportation act (and which the New England lines are entitled to have restored to them) the record shows that the New England lines are entitled to increased divisions.

Value of New England Roads

Considered in Making Rates

The value of the New England lines was considered and included by us in Ex Parte 74 in determining the aggregate amount to be paid by shippers for the use of the group transportation machine. The low earnings of the New England lines were considered in determining the amount of additional income to be raised. The effect of this action by us was, because of the difference in traffic density, to transfer to the other lines a part of the compensation which, under the statute, was to be raised, and which we started out to raise, for the New England lines. It is now our duty to correct this unsound result and direct these earnings back to the New England lines, where they belong under the statute and by virtue of our action which created them. To do less is not only to perpetuate gross injustice but to sanction a result which, it seems to me, is not in harmony with the spirit of the law. As I see it we are not asked to give to the New England lines something that belongs to the others, but to end a misappropriation in violation of law, by the other lines, of funds that belong to the New England lines. In fairness and justice the burdens of all carriers participating in through traffic, including a fair return to their owners upon their respective investments, should be considered in making an equitable division of the returns from their joint activities. The transportation act embodies these rules of simple justice. This act, recognizing that in the last analysis all enterprises involve only dealings between individuals and their relations to one another, requires that the rules of common fairness as between man and man shall be applied by railway public service corporations. We are the nation's agency to enforce these rules. Acting in the nation's power, we should not say we can not. I have so valued the transportation act, and have had such high hopes that I can not adopt the majority conception of our power and duty.

If it be true that we can not do complete justice immediately, this is no reason why we should not do partial justice. We can immediately, by a percentage readjustment, see that the New England lines receive what is now being diverted from them to the lines west as a result of their inclusion in determining the value of the properties in the group for rate-making purposes.

We can require that the New England lines be given that part of the increased earnings of the group, which was authorized for them by us in Ex Parte 74, because of the lower earnings of these New England lines. We can correct the carriers' methods so that the scheme of the transportation act to raise moneys to compensate for the use of all parts of the group machine shall not be defeated, after the moneys have been raised, as a result of our action in fixing different percentage increases on freight and passenger traffic and of the different ratios as between freight and passenger traffic on the different lines.

The representatives of the complainants adopted sound procedure in seeking a readjustment of the relations as a whole. Conditions were serious and required a major operation. As efficient men charged with great responsibility they had no other course. Immediate justice, to which the New England lines were entitled, could not be obtained in any other way. A delay of justice in this case is a denial of justice. The display by the defendants in this case of the traditional and not unnatural attitude of carriers to protect their revenues has been sufficient to justify the complainants in their view that a short-cut course to general directions by us was necessary. Similarly, we should be convinced that little will be accomplished promptly unless we announce the rules that are to guide the carriers.

New Specifications for Concrete

THE JOINT COMMITTEE on Concrete and Reinforced Concrete, which was organized in February, 1920, has presented its first progress report in the form of tentative specifications for concrete and reinforced concrete. This committee is composed of five representatives each from five national societies, namely, the American Society of Civil Engineers, the American Society for Testing Materials, the American Railway Engineering Association, the American Concrete Institute, and the Portland Cement Association. Richard L. Humphrey, consulting engineer, Philadelphia, Pa., is chairman of the joint committee, and J. J. Yates, bridge engineer of the Central Railroad of New Jersey, is vice-chairman. Besides Mr. Yates, the American Railway Engineering Association is represented by George E. Boyd, until recently division engineer, Delaware, Lackawanna & Western; Frederick E. Schall, bridge engineer, Lehigh Valley; H. T. Welty, engineer of structures, New York Central, and C. C. Westfall, engineer of bridges, Illinois Central.

This committee is the successor of the Joint Committee which made its final report in July, 1916, but the work of the present committee differs from its predecessor's in that whereas the earlier committee formulated general principles of practice for concrete design and construction, the present committee has undertaken to prepare complete specifications for both design and construction. The specifications were submitted before the recent convention of the American Society for Testing Materials, and will subsequently be reviewed by the other associations represented, following which the specifications will be referred back to the committee for a final draft.

Owing to the fact that the work of the present committee is not directly comparable with that of its predecessor, the present specifications are best compared with the specifications for plain and reinforced concrete adopted by the American Railway Engineering Association at its convention in March, 1920. The newer specifications, however, are much broader in their scope in that they cover the general subject of design and stresses, whereas the A. R. E. A. specifications refer only to workmanship. Taken as a whole, the new specifications are primarily building specifications in that where special details and conditions are referred to, they are primarily such details as are encountered in reinforced concrete building construction rather than those met in the design and construction of reinforced concrete railway or highway bridges or culverts. In the case of the design specifications, in particular, large portions are related primarily to the details of columns, slabs, etc., which go to make up the reinforced concrete building.

The specifications for materials and workmanship, which

are the portions of primary interest to railway engineers, may be said to represent a distinct advance as considered in comparison with the A. R. E. A. specifications. There is, however, very little of direct conflict between the two specifications, such differences as occur being primarily due to the inclusion in the new specification of requirements based on the results of more recent investigations in the strength of concrete. Thus a number of the clauses in the specifications imply the making of 28-day field tests of the materials actually to be used on the job, this information to be used on a check of the strength of the concrete in the light of the working stresses used in the design and as a means of obtaining the desired proportions of the various ingredients. The section on proportioning, however, provides for alternate clauses which make such tests unnecessary.

The specifications for the fine and coarse aggregates contain requirements for certain gradings of sizes, and in the case of the coarse aggregate this is contingent upon certain sieve analyses. In the case of the sand also it is provided that "The decantation test shall be made in accordance with the standard method of test for quantity of clay and silt in sand for highway construction of the American Society for Testing Materials." A further clause, however, provides for some modification of this requirement.

The requirements for metal reinforcement differ from those of the A. R. E. A. specifications in that bars rolled from old rails are permitted, whereas the A. R. E. A. specification excludes them. A deformed bar is defined as "one that will develop a bond strength at least 25 per cent greater than that of a plain round bar of equivalent cross-sectional area." The portion of the Joint Committee specifications relating to metal reinforcement under "details of construction" would seem to contain some valuable features not usually covered. This section is as follows:

Metal reinforcement, before being positioned, shall be thoroughly cleaned of mill and rust scale, and of coatings of any character that will destroy or reduce the bond. Reinforcement appreciably reduced in section shall be rejected. Reinforcement shall be reinspected and when necessary cleaned where there is delay in depositing concrete.

Reinforcement shall be carefully formed to the dimensions indicated on the plans or called for in the specifications. The radius of bends shall be four or more times the least diameter of the reinforcement bar.

Metal reinforcement shall not be bent or straightened in a manner that will injure the material. Bars with kinks or sharp bends shall not be used.

Metal reinforcement shall be accurately positioned and secured against displacement by using annealed iron wire of not less than No. 18 gage or suitable clips at intersections, and shall be supported by concrete or metal chairs, or spacers, or by metal hangers. Parallel bars shall not be placed closer in the clear than one and one-half times the diameter of round bars or one and half-times the diagonal of square bars; if the ends of bars are hooked as specified in Section 130 the clear spacing may be made equal to the diameter of round bars or to the diagonal of square bars, but in no case shall the spacing between bars be less than one inch nor less than one and one-fourth times the maximum size of the coarse aggregate.

Splices of tension reinforcement at points of maximum stress shall be avoided. Splices, where required, shall provide sufficient lap to transfer the stress between bars by bond and shear, or by a mechanical connection such as a screw coupling.

Vertical reinforcement shall be offset in a region where lateral support is afforded when changes in column cross-section occur and the vertical reinforcement bars are not sloped for the full length of the column.

Exposed reinforcement bars intended for bonding with future extensions shall be protected from corrosion.

The portion of the specifications relating to mixing and placing concrete is drawn much along the same lines as that of the A. R. E. A. specifications. A mixing period of 1½ min. as given in the A. R. E. A. specifications is amplified by the requirement that the mixer shall travel at a peripheral speed of about 200 ft. per min. No effort is made in these specifications to dodge the question of spouting, which is covered by the following clause.

When concrete is conveyed by spouting, the plant shall be of such size and design as to insure a practically continuous flow in the spout. The angle of the spout with the horizontal shall be such as to allow the concrete to flow without separation of the ingredients. The spout shall be thoroughly flushed with water before and after each run. The delivery from the spout shall be as close as possible to the point of deposit. When operation must be intermittent, the spout shall discharge into a hopper.

The specifications for forms were obviously drawn with the idea of meeting the requirements of building construction. One omission noted is the absence of any reference to steel forms, while the requirement that "wire ties will be permitted only on light and unimportant work" will no doubt seem a rather drastic restriction by those who build railway bridge structures and retaining walls and culverts.

Concrete in sea water is treated along the line of the report presented by the Committee on Masonry of the American Railway Engineering Association at the 1921 convention. A significant admission as to the limitations of concrete in this connection is found in the clause stating "Where unusually severe conditions of abrasion are anticipated, the face of the concrete from 2 ft. below low water to 2 ft. above high water, or from a plane below to a place above wave action, shall be protected by creosoted timber, dense vitrified shale brick, or stone of suitable quality, as designated on the plans."

Finishes are treated in somewhat more abstracted form than they were covered in the A. R. E. A. specifications.

Tentative Valuations

WASHINGTON, D. C.

THE INTERSTATE COMMERCE COMMISSION has served a tentative valuation report on the property of the St. Louis Southwestern in which it states the final value as of June 30, 1915, as \$29,072,479 for the property used, 988.54 miles of track, and \$26,792,424 for the property owned, 838.15 miles. The valuation includes the Gray's Point Terminal, the Paragould Southeastern and the Central Arkansas & Eastern. The total capitalization of the St. Louis Southwestern as of the valuation date was \$123,327,083 but this includes a considerable amount of bonds and stocks of other companies, some of which form a part of the St. Louis Southwestern system, including the St. Louis Southwestern of Texas. The total par value of these stocks and bonds was \$33,810,757. No dividends have ever been paid on the company's common stock. The investment in road and equipment, including land, is stated in the books of the carrier as \$67,430,327 as of the valuation date and the commission says that if certain readjustments were made and the items in the account taken at their recorded amounts, this figure would be reduced to \$62,853,401, of which \$46,881,248 is the par value of securities issued for the property of the St. Louis, Arkansas & Texas. The total maximum outlay in creating the property of the Arkansas company, the report says, could not have exceeded \$11,301,661. The original cost to date is not reported. The cost of reproduction new of the property used, excluding land, is given as \$31,099,584 and the cost less depreciation as \$23,757,820. The present value of the lands is given as \$2,462,159 and the excess cost as \$1,713,252.

The commission has also issued other tentative valuations which report the final value as follows:

Montpelier & Wells River.....	1914	\$1,925,000
Manistique & Lake Superior.....	1915	686,444
Union Freight Railroad.....	1915	429,833
New Orleans, Natalbany & Natchez..	1916	381,619
Uuachita & Northwestern.....	1916	354,944
Wichita Union Terminal.....	1916	2,070,911
Chicago & Wabash.....	1915	455,500
Milledgeville.....	1916	70,551
Monroe.....	1916	119,928
Mechassuck Valley.....	1916	160,404
Sugar Land.....	1916	490,697



A View of the Nogal Reservoir

E. P. & S. W. Rebuilds 141-Mile Wood Stave Pipe Line

Conduit Supplying Entire Engine District Rebuilt After 13 Years'
Life to Provide Enlarged Capacity

By J. L. Campbell

Chief Engineer, El Paso & Southwestern, El Paso, Tex.

ORIGINALLY the entire water supply of the El Paso & Southwestern System was from wells. From Carrizozo to Santa Rosa (128 miles) the water carried more than 100 grains of incrusting solids per gallon, could not be made suitable for steam by treatment, and was so bad

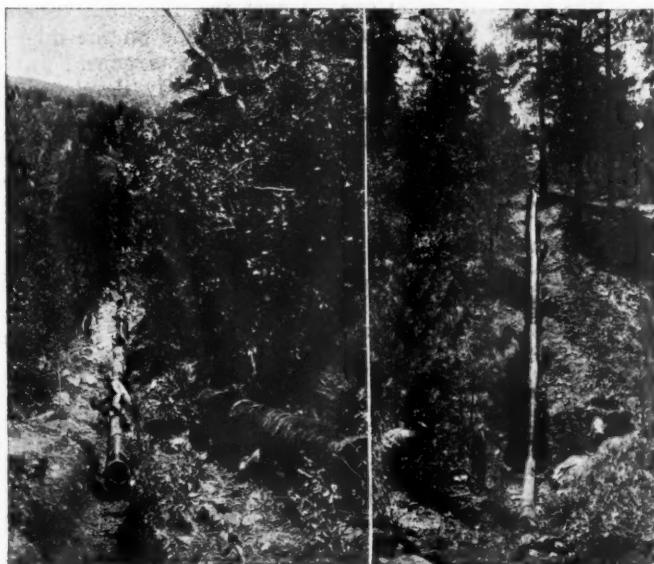
level, from which the pipe line runs around the northeast base of the mountains 12 miles to Nogal storage reservoir, also situated on the crest of the divide 7,100 ft. high, from which the line drops into the Rio Grande basin to the railroad at Carrizozo and Coyote to elevations of 5,400 and 5,800 ft., respectively—a total of 46 miles of pipe from source of water to the railroad.

From Coyote to Corona (36 miles along the railroad) the water is pumped up to an elevation of 6,750 ft. (a 950-ft. lift), Corona also being on the crest of the divide between the Rio Grande and the Rio Pecos. From Corona to Pastura (the present terminus of the line), 59 miles along the road, the pipe drops back into the Pecos basin to an elevation of 5,300 ft. Eventually it will be extended 20 miles to Santa Rosa on the Pecos, the water of this stream being unsuitable for steam—a total distance of 150 miles from the source of water supply.

In the original line there were 117 miles of wood, 6 miles of steel and 18 miles of cast iron pipe. Diameters ran from 16 to 4 in. The maximum pressure is 130 lb. for wood and 300 lb. for iron pipe. This line has a capacity of 3½ million gallons daily from source of supply to Nogal reservoir and 1½ million from the reservoir to the railroad. The reservoir is a natural bowl-shaped basin in the summit of the water shed 1,700 ft. above the railroad. It has a capacity of 400,000,000 gal. up to the lowest place in the rim of the bowl. This can be increased to 1,000,000,000 gal. by three small embankments.

The pipe line was built 13 years ago. The annual peak demand on it now equals its original capacity. To provide for future requirements, a renewal and enlargement program to be completed in 1930 has been inaugurated by which the original capacity will be doubled. The lower line on the profile gives the diameters of the proposed enlarged line from the source to the Rio Pecos at Santa Rosa. This will include 137 miles of wood, 6 miles of steel and 36 miles of cast iron pipe. The wood pipe diameter will run from 21 to 5 and the iron from 15 to 12 in. The maximum pressures will be the same as above given for the original line. About 25 miles of the renewal program, including the 21-in. wood pipe, is completed and the capacity from source of supply to Nogal reservoir is now 7,000,000 gal. daily.

Weight and cost of cast iron pipe in isolated and moun-



Two Views of the Eagle Pipe Line Crossing the Mountains

that the growing traffic could not be successfully handled on that district.

A better water supply was imperative. This was found in Bonito and Eagle creeks, small streams on the east slope of White mountain situated 30 miles southeast of Carrizozo and fed by springs and snow, the mountain being 12,000 ft. high. This water is good, having less than 10 grains of incrusting solids per gallon. It is conducted to and along the railroad in a pipe line shown by the dotted line on the map on the following page.

White mountain is on the divide between the Rio Grande and the Rio Pecos. The point of water diversion lies in the Rio Pecos drainage on the east slope 7,750 ft. above sea

tainous country led to selection of wood pipe for original construction for all pressures not in excess of 130 lb., and the same considerations still impel adherence to original conclusions. The wood pipe is the kind known as machine-made spirally-wound pipe. In Vol. 70 of the Transactions of the American Society of Civil Engineers there is a full description of the original line.

The wood pipe is now made to E. P. & S. W. specifications. Cast iron collars, when required for the joints, are made in El Paso to the railroad's design and specifications. We believe the iron collar is best, especially for high pressure, but wood collars under 130 lb. are serving satisfactorily. All of this pipe so made is remarkably tight, the average leakage therefrom not being in excess of 25 gal. per mile per inch of diameter per day.

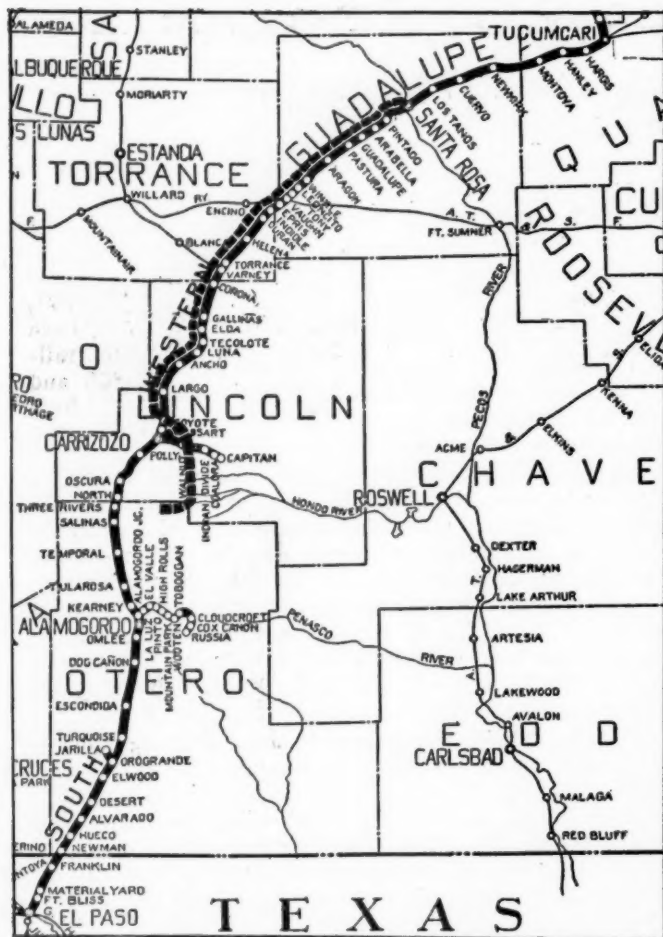
At Coyote and Luna (on the pumping section) the maximum pump pressure is 300 lb. and cast iron pipe is used

pumps are Nordberg, cross-compound, condensing, crank and fly wheel pumping engines having a contract duty of 135 million ft.-lb. per 1,000 lb. of dry steam at 150 lb. pressure. The boilers are Sterling water tube with superheaters. Each plant is lighted by a small electric light unit.

The renewal and enlargement program described was not put under way because of necessity for general renewal of the original line at this time. The original wood pipe could be maintained at reasonable expense for the next 10 years, perhaps longer, but such a program would finally require the renewal of more than 100 miles of pipe in limited time with attendant risk and concentration of expenditure.

About the only material limitation of the life of wood pipe properly designed, made and laid and kept saturated is the corrosion and consequent failure of the steel banding. The banding on the original pipe herein described is an ungalvanized flat steel band protected only by a heavy coat of asphalt. Failure of this band began in the fourth year, but has never been serious. During 1920, the twelfth year, the repair of banding so failing required an average of 15 individual $\frac{3}{8}$ -in. round bands of the kind used on continuous stave pipe per mile of pipe line. This was a quite nominal expense. A failure of the banding is indicated by a leak which is usually discovered and stopped by application of a few round bands without taking the pressure off the pipe. The round galvanized banding, also, covered with asphalt, will last much longer and the pipe so made should be maintained at a reasonable expense for 50 years, other conditions being right.

The investment in this water supply was necessarily large, but within two years the reduction of operating cost due to the better water was greater than the investment. Train tonnage increased $33\frac{1}{3}$ per cent within 30 days after the use of the new water supply began. One of the marked results was a psychological one. Under the disastrous conditions prevailing with the bad water everyone on the district was discouraged and esprit de corps was gone. In 30 days it was more than recovered, everybody developed a high batting average and the operating district was converted from a liability to an asset.



Map of the El Paso & Southwestern, Showing the Water Supply Line

from each pumping station up the line to the point where the pressure in the pipe is 130 lb., from and beyond which wood pipe is used. Water hammer on these pumping mains is eliminated by large air chambers in the form of a riveted steel cylinder 5 ft. diameter and 15 ft. long, mounted in horizontal position over and connected to the main by a 12-in. tee just outside of the pump house. These cylinders are kept charged with air by small automatic air charging devices attached to the water end of the pumps and actuated by the piston movement.

Each pumping station consists of two duplicate pumping units, one unit being in reserve. The units are operated alternately, usually in three-month periods. Additional units will be added as required by increasing pumpage. The



From the Providence Journal

Use the Life Preserver.

"Stop or Proceed" versus "Stop and Proceed"

Signaling for Economy and Progress, Not for Safety in Its Narrow Sense; Abolish Useless Stops

By A. H. Rudd

THE CAMPAIGN to eliminate the unnecessary stopping of trains is on. The campaign to automatically stop trains is on. The pendulum, as the German said, "Swings fro and to, fro and to." At first glance it would seem that the two movements represent diametrically opposed forces, tending to bring the pendulum to rest. At first glance also it would seem that the vibration of a pendulum does not aptly illustrate rapid progress and advancement—yet this "swinging fro and to" has been frequently cited as the characteristically American method of arriving at its destination and, when it ceases, the works stop. Both campaigns should succeed; the forces back of both should work together: the result should be ideal.

Nothing is so easily overlooked as the obvious. Perhaps the presentation of a few scrambled axioms may lead some card-index mind to arrange them in logical sequence and help the solution of the problems. At all events, a review of the development of signaling and the changing ideas as to its value and its functions may be of interest:

1. Travel by railroad is safer, in spite of its dangers, than almost any other method of locomotion.
2. If no trains moved, no trains could collide; but there would be no travel.
3. The danger element is introduced as soon as a train starts.
4. Having necessarily introduced this danger it is obvious if all trains moved in the same direction at the same speed no collisions would result.
5. With a number of trains moving in the same direction each stop may endanger the movement. Therefore, unnecessary stops should be eliminated.
6. Signals were originally installed to indicate Stop, *and for no other purpose.*
7. Later, they were erected to give warning of danger ahead, or "Prepare to stop."
8. For years they were regarded as a luxury or a necessary evil.
9. Later they admittedly "safeguarded traffic," but it took years of work to convince "practical" old-school railroad operating officers that signals could be used for *expediting and facilitating traffic.*
10. Even yet education along these lines is apparently necessary, and the publicity departments of the signal companies are advocating the installation of interlockings at grade crossings and junctions, and the shortening of blocks by providing automatic signals for the purpose *not of safeguarding traffic by stopping trains, but of safeguarding, expediting and facilitating traffic by the elimination of unnecessary stops.*
11. A great many inventors, still clinging to the original conception as to the functions of signals, are attempting to develop devices whose sole function is to stop trains (in at least 50 per cent of their actions unnecessarily), while perhaps one-tenth of one per cent are working to *safeguard, expedite and facilitate traffic.*

Ideal operation is one of speed at termini, infrequent yarding and continuous movement between yards. It is, of course, impossible of attainment, but every stop, every delay, every moment cars or engines are idle, no matter from what cause, increases the cost.

Obviously, therefore, a device which will prevent excessive speed on curves, over crossovers and at other points where speed should be restricted, and which will, as a last resort, stop the train short of the danger point; a device which will only function when the engineman fails, leaving him free control while he does function, and permitting him to cut out the stop, but, in such event, to run only at slow speed, would theoretically at least not only safeguard but expedite traffic, and would supplement rather than nullify a signal system designed to keep trains moving.

Collisions resulting in fatalities rarely occur in terminals or in the congested districts; as a matter of fact, they rarely occur at all, considering the number of trains run; but they most frequently occur in the open where fast running for long distances is the rule.

This is the field for speed control, but not for automatic stops as such, which would not only cause collisions but which would force us to violate the Esch-Cummins law, which requires that railroads be economically and efficiently operated. Every real railroad man wants to so operate, not alone because it is the expressed wish of the Congress, but as a matter of pride in his work and the joy of accomplishing something worth while; and he knows the railroads must be so operated if they are to live.

The progress of signaling has been so rapid that every signal engineer in the country, worthy of the name, knows where he can earn a big percentage on his investment (much of it, unfortunately, intangible earnings and savings) if he could fully equip his busy lines with modern signals and interlockings, and replace a large part of what he has in service, just as manufacturers replace their machinery, with more efficient apparatus. He knows what he wants to do. He knows what he would do if he had unlimited funds, but he also knows the financial condition of the roads, and he is living from hand to mouth, hoping the day may come when he can again create and have others, as well as himself, look upon his work and say "behold it is good." It is doubtful if, under the present conditions, he can do much to hasten the advent of this signal millennium; but, instead of waiting with his hands folded and his white robes on, he may be able to ameliorate existing conditions by assuming the well-known role of the reformer and telling others where to head in.

Some Improvements Practicable, in Spite of Financial Restrictions

Several signal engineers, and even some "practical operating men," firmly believe better and safer operation could and would be attained if the stop-and-proceed signal were eliminated and the signal provided in the A. R. A. standard code rule No. 501-G, which does not require the stop, substituted. This is an operating matter and the signal engineers have no jurisdiction; but they may express their opinion.

The A. R. A. standard code (automatic block signals) Rule 504, April 15, 1896, read: "When train is stopped by a block signal it may proceed when the signal is cleared or after waiting — minutes, and then running under caution or preceded by a flagman to the next clear signal." This rule, revised April 25, 1920, reads: "* * * it may proceed when the signal is cleared or: A: after waiting — minutes

and then running under caution; B: Preceded by a flagman to the next clear signal"—either being considered good practice; "B" being generally used on single track. Edition of February, 1911, Rule No. 504: "When a train is stopped by a block signal it may proceed when the signal is cleared; if not immediately cleared it may proceed—A: On single track preceded by a flagman to the next clear signal—B: On double track *at once with caution.*"

The standard code, Nov. 17, 1915, differentiates between the stop signal and the stop-and-proceed signal, and Rule 509 provides—"When a train is stopped by a stop-and-proceed signal it may proceed * * * : On two or more tracks at once, at slow speed, expecting to find a train in the block, broken rail, obstruction or switch not properly set."

We started out with a time interval. Then we put in the absolute manual block system, spacing trains perhaps four or five miles apart. Then we installed automatic signals with shorter blocks and held trains — minutes (on one road originally, I believe, five minutes, then cut to two, then to one, and finally no time required, simply the stop), and the standard code, as noted above, now provides a signal, Rule 501-G, "Proceed at slow speed prepared to stop short of train or obstruction"—eliminating the stop—Name: Permissive Signal—Requisites of Installation: "Block is occupied, or switch is set to diverge." This indication is used on some roads to govern heavy tonnage trains on up grades, other trains being required to stop and proceed, although this aspect is different from the stop-and-proceed signal, and the anomalous condition exists of two aspects indicating stop-and-proceed for certain trains and one aspect indicating stop-and-proceed for some trains and proceed without stopping for other trains. On other roads, this signal permits all trains to proceed without stopping.

Many roads run freights "permissive with freight" in manual block territory, either by signal indication or by card or order, without stopping, and yet we cling to the antiquated stop-and-proceed signal with the idea that in some way it tends to safer operation.

Recently on a busy line, where all automatic signals are either stop or stop-and-proceed the proposition of an extension of automatic signals was discussed and objected to, because, while it would facilitate passenger traffic, the frequent additional stops required on account of the automatic signals (with shorter blocks) would tie up freight trains on up grades which were being safely moved under the manual permissive without stops. And the objection was good.

"Cutting off his tail an inch at a time doesn't really make it any easier or better for the dog." Why not cut out the stop everywhere?

There are two component parts of Rule 509 (Old rule 504):

1st—The stop.

2nd—The slow speed after stopping.

Advocates of the stop insist that the first part enforces the second and makes for better discipline. This may be the case on heavy up grades with heavy trains, which cannot get up speed for a long distance, if at all, after stopping, but this is just the condition under which, by the use of grade signals, the first requirement is eliminated. On level track a light train, and on descending grades any train, can attain considerable speed after stopping, while passing through blocks 4,000 ft. or 5,000 ft. long or longer. Therefore, the second requirement must for safe operation be enforced independently of the first.

Some of us believe that the automatic block signal governing following movements should give information as to the occupancy or non-occupancy of the block and, when three-position or home and distant signals are used, of the indication displayed by the next signal; the stop-and-proceed signals should be eliminated; and stop signals displayed *only where stops are required*, i. e., when protection is needed

against opposing movements and at grade crossings, junctions and crossovers where side collisions might otherwise occur.

Argument for Eliminating "Stop and Proceed"

By eliminating stops which are unnecessary and are known by the enginemen to be unnecessary, we should strengthen the significance of the *stop signal as such*.

We now have signals which indicate in effect:

- (a) Proceed at slow speed, prepared to stop short of train or obstruction.
- (b) Stop and then proceed at slow speed, prepared to stop short of train or obstruction.
- (c) Stop and stay till signal clears or specific authority is given to pass.

The first and second of these indications (a and b) are identical in the action required of the engineman after passing the signal but *b* requires a stop before reaching it. The protection afforded a train ahead is in either case the requirement that the following train shall *proceed at slow speed prepared to stop short of train or obstruction*. If this requirement is obeyed the stop is absolutely useless, for the train is not required to stop and *stay* till the block is clear, but may proceed at once at slow speed!

Why, then, the stop? Because it is presupposed that without it the second requirement may be disregarded.

Is it not logical to assert, as some operating officials do, that the men, realizing the stop delays traffic, are more likely to run faster than they would if they had not (as they do in many cases) spent two or three minutes in starting?

Every effective signal system in use is based on the premise that the indications will be obeyed. Any attempt to design or enforce a system predicated on the violation of its indications would be worse than futile; it would be nonsensical.

Any statement that this one particular indication must require the stop, when we know that the indication *a* (Proceed at slow speed prepared to stop short of train or obstruction) is properly obeyed thousands of times a day all over the country, is an assumption of weak discipline and reckless and disobedient enginemen, which is not only humiliating but is not in accord with actual conditions.

It is a curious fact that the devices intended for speed control, as differentiated from the straight stop, eliminate the stop feature, or provide for its elimination if slow speed is maintained.

When we install train control, do we want each train to stop at or considerably before reaching a signal indicating block occupied or that a train is to diverge at slow speed, and have the engineman get off his engine and do some complicated releasing act? Or, do we want to get our trains over the road safely, with a minimum delay, and pull them down to slow speed only when necessary and when the engineman fails to function?

Let us clarify the situation.

Let us give the engineman the best information possible of conditions ahead, consistent with a system of signals whose indications he can instantly grasp. Let us tell him to stop only where necessary and when we say stop let us mean it.

Let us eliminate "b" or else let us add a few more variations, such as "You *may* stop," "You *should* stop," "You *must* stop," and then wind up with that effulgence of splendor, that exuberance of verbiage, so dear to many—"Trains must *come to a full stop*!"

Eggs, fresh eggs, strictly fresh eggs! Let's have less eggs and all fresh. Less variations in stops and all real stops. *Stop-and-Stay*; this because it is *necessary*.

A careful, unprejudiced study of the problem, undertaken with an open and active mind, will, we believe, by the unassailable logic of the situation, lead eventually to only one result. The change will be made some time, and it will be interesting to see which management has the "intestinal investiture" to issue the first Declaration of Independence.

Suggested Remedy for the Freight Car Situation

Inadequate Per Diem Rates Remove Incentive for Ownership;
Holding Company Would Improve Conditions

By W. S. Moseley

Mechanical Engineer, Carolina, Clinchfield & Ohio

AN article in the *Railway Age* of June 10 forcibly brings to attention the need for better maintenance that will result in more permanent improvements to freight cars.

Notwithstanding the numerous rules governing the repairing of cars and the honest endeavors of the motive power officers, the problem bristles with complex and involved conditions over which the motive power department has no control. A condition, such as has prevailed in recent years, in which cars are off the owning line 50 per cent of the time and some cars are away four or five years, tends to prevent proper repairs or the carrying out of repair programs. Stringent rules are fine for the other fellow, but when it comes to applying them to ourselves and making repairs of a permanent nature to foreign cars, probably at a loss, and at the same time paying the owner a rental charge for each day the car is on the line, it is somewhat difficult to convince the management that the expense is justified, especially when home cars awaiting repairs are accumulating. We have yet to find a road that is complying with Rule I of the Code of Interchange. The rule is at variance with the primary motive of the railroad officers, whose interest is the welfare of their company.

The car service rules attempt to prevent the misuse of equipment, but in their application they do not prevent a railroad holding a modern car which is in good condition and getting rid of a weak and worn-out car which is likely to cause trouble and damage to both equipment and contents.

The per diem charges are not sufficient to justify owning enough equipment to meet the requirements, when repairs, fixed charges and return on the investment are considered in connection with the fact that probably 20 per cent of the time (during depressions) the car is idle and not earning its upkeep, or when consideration is given also to the investment in plants necessary to keep the cars in service. The present practice of charging a flat per diem rate for all cars and the distribution of cars without regard to condition, capacity or value is not sound and tends to perpetuate the use of equipment that should be taken out of service. This practice also encourages the purchase of cars on a price basis to the extent that a non-coal carrying road will buy light weight coal cars and the coal carrying roads buy light weight box and house cars.

Present Accounting Rules Discourage

Ownership of Cars

The practice of charging all costs of repairs made to home cars on foreign lines to the maintenance of equipment account and not giving this account credit for any of the rentals, tends to discourage the purchase of freight equipment, both by the motive power and operating departments, for the reason that as the equipment rentals are not charged to operating expenses, a better showing can be made with an inadequate car supply than would otherwise be the case. This is illustrated by a case where one road had a debit of \$500,000 per month on account of equipment rental and a smaller adjoining line had a credit of \$200,000. Neither of these amounts affected the operating ratio, but the smaller line had a charge to maintenance of equipment each month on account of repairs to cars on foreign lines equal to the total amount expended on the home line on home cars, in addition to the depreciation

charges which were necessary for the surplus equipment.

Regulating expenditures on the basis of revenue may be necessary but it is uneconomical and results in work not being done at the most opportune time. The present is a good example of this unfortunate practice when the repair tracks are full of equipment needing overhauling with employees laid off on account of funds not being available to do the work.

Standardizing Cars Through a Holding Company

Freight cars lend themselves to standardization more readily than any other equipment, and standard designs should be adopted, but under present conditions, as outlined above, the proposition seems hopeless until some central body is given the authority and held responsible for results. How can this be done?

One answer is to break away from the time honored, but inefficient methods of today and place all cars used in interchange traffic under central control, which would be held responsible for the repairs, renewals, retirements, depreciation and return on investment in freight cars. This central body should also have control of the Car Service Division. All would necessarily be subject to the Interstate Commerce Commission.

The central body should be a company with its entire stock owned by the railroads in proportion to their equipment requirements. The present equipment should be turned over to the company in payment for stock, and if not sufficient equipment is now owned, the balance should be in cash or approved obligations.

The company would probably subdivide the country into regions and would undertake to make all repairs to freight cars by means of centrally located car shops, the railroads doing only such repairs as may be necessary to make the equipment safe to run and light running repairs in yards. The railroads would bill against the owning company for this service.

The owning company would make a combination charge for the use of the equipment on a basis of car days, plus the total car miles per month. This charge should be sufficient to provide a surplus that would be used to make repairs when cars are not in demand. The charge should also be sufficient to insure a net profit which would be turned back to the railroads in the form of dividends and in this way penalize a company for not providing for its full requirements by stock subscription. A minimum charge per month based on normal requirements should also apply in order to equalize the carrying charges when there is a surplus of equipment.

Advantages of Unified Control of Cars

The advantages of the above plan would be numerous, and should reduce the cost of maintenance as well as better the condition of the equipment. Cars of obsolete design could be segregated and either permanent improvements applied, or the cars retired. Groups of cars needing heavy repairs could be ordered into shops, systematically overhauled and placed back in service promptly. Repair shops could be segregated from railroad shops and handled on a piece work basis. These shops would be of sufficient size to specialize various operations and utilize complete shop equipment. The sepa-

ration of repairs due to wreck damage from those due to use would facilitate an analysis of the cost of maintenance of various types of cars and devices and lead to adoption of improved designs.

Standards could be promulgated with the knowledge that they would be applied and benefits derived immediately therefrom. The systematic handling of repairs at large shops would reduce the cost as well as keep the number of bad order cars to a minimum.

A company to handle this proposition should have a capital of about \$2,500,000,000, but this would not mean new capital as the present equipment would represent something near this amount.

The following table, compiled from bulletins of the Car Service Division, shows that the larger railroads are in better shape to keep their equipment in serviceable condition.

Group	Number of Railroads	Cars Owned		Cars Bad Order	
		Number	Per Cent Total	Number	Per Cent Total
Group A, over 100,000....	3	506,000	21.5	57,900	17.8
Group B, 50,000 to 100,000	10	620,000	26.4	83,100	25.6
Group C, 25,000 to 50,000	16	607,000	25.8	86,100	26.5
Group D, less than 25,000..	108	613,000	26.3	97,900	30.1
Total	137	2,346,000	100	325,000	100

It will be noticed that 137 roads owning 2,346,000 cars can be divided into groups of those owning over 100,000 cars, those between 50,000 and 100,000, those between 25,000 and 50,000, and those under 25,000 cars. This division shows that each group owns approximately one-fourth of the total number of cars, although the first only consists of three roads, the second 10, the third 16 and the fourth 108 roads. The interesting feature is that the larger the number of cars owned per road, the smaller is the proportion of bad order cars, both to the total number of bad order cars and to the number of cars owned by the groups.

It is appreciated that an arrangement as outlined would include many details that would have to be worked out, but this should not be any more complicated than the present method.

Railroad Bill Introduced in House

WASHINGTON, D. C.

A BILL TO CARRY OUT President Harding's recommendations for providing the Railroad Administration with funds to enable it to settle its obligations to the railroads was introduced in the House on July 28 by Chairman Winslow of the committee on interstate and foreign commerce. The bill would authorize the War Finance Corporation to purchase from the Railroad Administration railroad securities now held by it, or to be acquired by it, at an aggregate purchase price not exceeding \$500,000,000, at the prices and subject to the discounts, if any, at which they were acquired by the Railroad Administration. The bill also amends section 207 of the transportation act, which provides for the funding of expenditures for capital improvements, to provide that any bond, note or security acquired by the Railroad Administration, as the agent of the President, in connection with the funding, may, at the option of the President, bear interest at the rate of 6 per cent, and in such event shall be received at par less such discount as may, in the opinion of the President, represent the customary and reasonable expenses of marketing such bond, note or other security, or may bear interest at a rate less than 6 per cent, and in such event shall be received at a price to yield an average return, if held to maturity of 6 per cent, such price to be subject to such further discount as may in the opinion of the President represent the reasonable expense of marketing.

It is also provided that in the case of a carrier that has already made a settlement with the Railroad Administration,

the settlement may be readjusted for the purpose of funding any indebtedness of the carrier to the United States arising out of additions and betterments made during federal control.

The part of the bill relating to the War Finance Corporation is made an amendment to the War Finance Corporation Act. It provides that whenever, in the opinion of the board of directors of the corporation, market conditions justify, the securities acquired by the corporation from the Railroad Administration may from time to time be sold at not less than the original cost to the corporation, and it is also authorized to sell at the request of the President railroad securities not purchased by the corporation. The proceeds of all bonds, notes or other securities so sold to the corporation, or sold by it as selling agent, are to be a fund to be used by the President for the purpose described in section 202 of the Transportation Act, which provides for the settlement of the obligations of the government to the roads arising from federal control.

Representative Winslow explained that the purpose of the bill was to put funds into the hands of the railroads so that they may be able to go into the market and purchase supplies, and he said that they apparently are ready to make such a move if their credit can be established so as to warrant them in so doing. The settlement of the accounts, he added, would make it possible to reduce the Railroad Administration force, which now numbers 1,200 and which is costing the government \$4,000,000 a year.

A bill to the same effect but with somewhat different language was introduced in the Senate on July 29 by Senator Townsend, a member of the committee on interstate commerce, and plans are being made for early consideration in the Senate. The Senate committee, after its extensive hearings on the railroad question, is not expected to hold hearings on the new bill, but the House committee will probably consider it necessary to hold hearings. It is expected that there will be a fight against the bill on the part of those who believe, or would like to make it appear, that the railroads are receiving some special favor, but the support of the administration is counted upon to put it through.

A statement was issued from the White House on July 29 outlining "the accomplishment of the past four months by various branches of the government in the direction of relieving financial conditions" which contained the following on the railroad situation:

"The financial necessities of the railroads have long been recognized as of imminent concern to the entire country, not only because efficient transportation is vitally necessary, but also because there is hope for a resumption of industrial activity when the railroads are put in funds and enabled to begin buying the vast quantities of material which they need. In order to make this possible the administration has put forth a program which contemplates the early and rapid settlement of the accounts between the railroads and the government, growing out of the period of federal control and operation. This settlement should enable the roads to become extensive purchasers of materials and thus greatly improve industrial conditions. In this connection the President has recommended to Congress that the War Finance Corporation should be given power to purchase railroad securities from the director general of railroads in order to finance the settlements by the Railroad Administration. This proposal is merely a revival of the war-time powers of the corporation, under which it made advances of about \$205,000,000 to the director general of railroads and the railroad companies. Of this amount, about \$160,000,000 has been repaid. In connection with the advances previously made the War Finance Corporation was able to give effective assistance to the general railroad credit situation by means of its intervention and the co-operation it was able to secure from bankers. It is expected that its intervention at this time will again have a beneficial effect on general railroad credit"



Benguella Locomotives Are Equipped with Automatic Vacuum Brakes

Recent Designs of Twelve-Wheel Locomotives

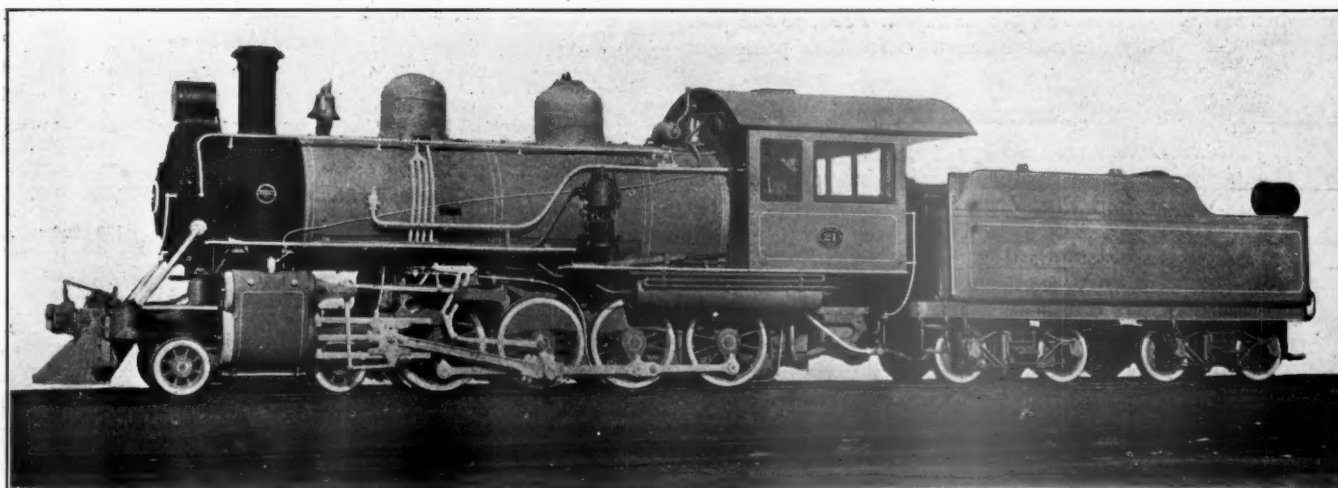
Not Extensively Used in America, Common in Other Countries—Baldwin Designs for Export

THE FIRST LOCOMOTIVE in which eight driving wheels were combined with a four-wheel leading truck and which is now known as the 12-wheel or 4-8-0 type was the "Centipede," which was placed in service on the Baltimore & Ohio in 1863. Although 12-wheel locomotives are commonly used for heavy freight mixed traffic on a number of European and Asiatic railways, comparatively few have been built for American railways. Probably the

Driving wheels	56 in. diameter
Boiler	80 in. diameter
Heating surface	4,041 sq. ft.
Grate area	44.7 sq. ft.
Boiler pressure	200 lb.
Maximum tractive effort	52,500 lb.

Benguella Railway—Portuguese West Africa

The Benguella Railway of Portuguese West Africa extends eastward from Lobita Bay on the Atlantic coast into



Heavy Standard Gage Jamaican Locomotive

most extensive users of this type in the United States are the Norfolk & Western and the Lehigh Valley. During 1906 and 1907 the Norfolk & Western placed in service 100 4-8-0 type locomotives built by the Baldwin Locomotive Works. These were followed in 1910 by 50 heavier engines of the same type. These locomotives, as originally built, used saturated steam and were equipped with Walschaert valve motion and piston valves. They were of the following dimensions:

Weight of engine	261,100 lb.
Weight on driving wheels	213,200 lb.
Cylinders	24 in. by 30 in.

the interior to Colongo, and at present has 390 miles of 3 ft. 6 in. gage line in operation. When completed the road will be 1,155 miles in length, reaching from the coast to a point near Bakuma, where it will connect with the trunk line from Capetown. The rolling stock includes 23 locomotives, 4 rack locomotives, 15 passenger coaches and 198 freight cars and will be added to as the road is extended. Eventually the road will be an important one and furnish the shortest route to the interior of the country.

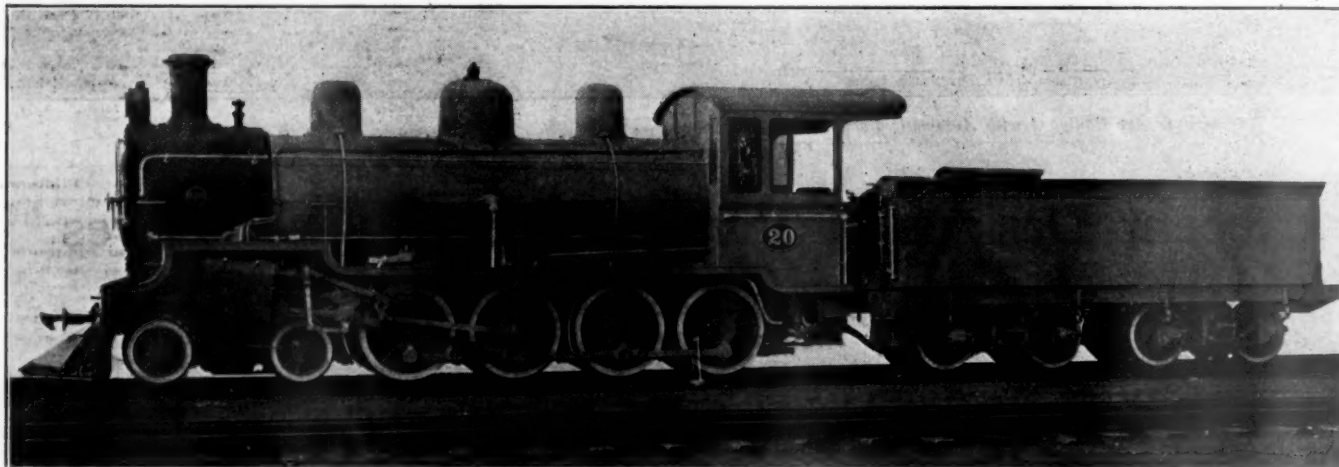
On May 29, 1920, an order was placed with the Baldwin Locomotive Works for two locomotives of the 12-wheel type,

which were shipped to Lobita Bay and are now used in construction work extending the railway. These locomotives are the first of this class ever purchased by the Benguela Railroad.

Midland Railway—Western Australia

The Midland Railway runs south from Geraldton along the coast to Denison, then inland and connects with the Government Railways of Western Australia at Midland Junction, about 10 miles north of Perth, and at present operates 17 locomotives, 20 passenger cars, 11 brake vans and 342 freight cars over some 275 miles of 3 ft. 6 in. track. The Baldwin Locomotive Works also received an order from the Midland Railway for two 12-wheel locomotives. These

	Benguela Portuguese West Africa	Midland Western Australia	Jamaica Government
Boiler:			
Type	Straight Top	Straight Top	Straight Top
Diameter	64 in.	58 in.	62 in.
Working Pressure	160 lb.	160 lb.	190 lb.
Fuel	Wood	Soft Coal	Soft coal
Firebox:			
Material	Copper	Arsenical Copper	Steel
Staying	Radial	Radial	Radial
Length	96 in.	94 in.	102 in.
Width	28 in.	27½ in.	42¾ in.
Grate area	18.7 sq. ft.	18 sq. ft.	30 sq. ft.
Tubes	21—5¾ in.	19—5¼ in.	242—2 in.
	127—2 in.		
Heating surface:			
Firebox	130 sq. ft.	123 sq. ft.	143 sq. ft.
Tubes	1,288 sq. ft.	947 sq. ft.	1,173 sq. ft.
Total	1,418 sq. ft.	1,070 sq. ft.	1,916 sq. ft.
Superheater	334 sq. ft.	253 sq. ft.	



Inclined Cylinders Are Used on Midland Locomotives

locomotives, as in the case of the two for the Benguela of Portuguese West Africa, were the first of this type to be purchased by the Midland Railway. They were ordered in September, 1919, and shipped in April, 1920, to the port of Fremantle. They are now being used for both passenger and freight service.

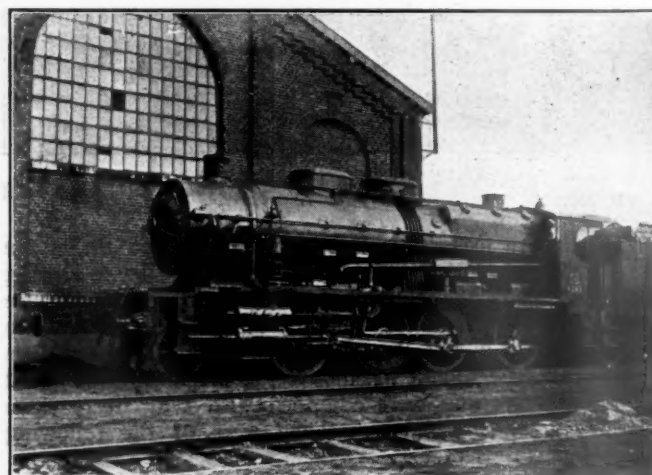
Jamaica Government Railways

The Jamaica Government Railways run west from Kingston, forming two lines at Spanish Town; one runs north to Linstead, Ewarton and Port Antonio, while the other runs in a northwesterly direction to Montego. The railways operate 197 miles of standard gage track and possess 44 locomotives, 38 passenger cars and 589 freight cars. The Baldwin Locomotive Works have built various designs of the 12-wheel type of locomotive for the Jamaica Government Railways since 1907, in which year the first order was placed. In September, 1919, an order was given for two 12-wheel type locomotives, which were completed and shipped in January, 1920. While these locomotives were being built and erected additional orders were placed, one in the latter part of September, 1919; one in December, 1919, and one in January, 1920. These duplicate locomotives were respectively shipped in January and March, 1920, to Kingston, Jamaica. They are now being used for mixed passenger and freight service.

The weights and principal dimensions of the 12-wheel type locomotives supplied to the three railroads referred to are given in the accompanying tabulation:

	Benguela Portuguese West Africa	Midland Western Australia	Jamaica Government
Traction Effort (85 per cent working pressure)	27,200 lb.	22,520 lb.	32,975 lb.
Gage	3 ft. 6 in.	3 ft. 6 in.	4 ft. 8½ in.
Cylinders	20 in. by 24 in.	18 in. by 23 in.	19 in. by 26 in.
Valves	Piston	Piston	Piston

Wheels:			
Driving, diameter outside	48 in.	45 in.	46 in.
Driving, diameter center	42 in.	39 in.	40½ in.
Journals, main.....8½ in. by 9 in.		7 in. by 8 in.	7½ in. by 8½ in.
Journals, other.....8 in. by 9 in.		7 in. by 8 in.	7½ in. by 8½ in.
Wheel Base:			
Base, driving.....	13 ft. 6 in.	12 ft. 9 in.	12 ft. 9 in.
Base, total engine.	23 ft. 4 in.	22 ft. 0½ in.	23 ft. 0 in.
Weights:			
On driving wheels.	106,900 lb.	80,000 lb.	108,300 lb.
On truck, front....	30,100 lb.	28,000 lb.	28,600 lb.
Total engine.....	137,000 lb.	108,000 lb.	136,900 lb.
Total engine and tender	227,000 lb.	172,000 lb.	225,000 lb.
Tender:			
Water capacity....	3,500 Imp. gals.	3,000 U. S. gals.	3,500 Imp. gals.
Fuel capacity.....	540 cu. ft.	5 tons	6¼ metric tons



A Compound Consolidation on the Northern Railway, France

Reorganization of Car Service Division, A. R. A.

M. J. Gormley New Chairman—Changed Methods of Reporting Car Surpluses—Freight Car Loading Increases

THE CAR SERVICE DIVISION of the American Railway Association has been reorganized, effective August 1, and M. J. Gormley has been appointed chairman. The chairmanship will be the point of contact between the Car Service Division and the Interstate Commerce Commission on all details relating to car matters. Mr. Gormley will have general supervision over the activities of the division and will report to the president of the American Railway Association.

Car service managers are W. C. Kendall, A. G. Gutheim, W. J. McGarry, and L. M. Betts. J. J. Pelley is manager of the refrigerator department with headquarters at the Manhattan building, Chicago. C. F. Sewart is manager of the troop movement department and C. A. Buch is secretary. The manager of the refrigerator department will also act as district manager at Chicago. It is proposed to appoint district managers at other important centers if necessary.

The car service managers are assigned as follows: W. C. Kendall to the Railroad Relations Section; A. G. Gutheim to the Public Relations Section; L. M. Betts to the Closed Car Section; and W. J. McGarry to the Open Car Section. The Railroad Relations Section will handle all questions relating to car service and per diem rules, analyze statistics not in the field of other departments, supervise the work of local car service committees, district managers and inspection forces and supervise the placement and cancellation of embargoes. The Public Relations Section will co-operate with government and local authorities other than the Interstate Commerce Commission and make special studies of various classes of traffic from time to time. The sections dealing with closed, open and refrigerator cars will supervise the distribution of the classes of cars assigned to their jurisdiction. The secretary is responsible for the organization of the division's general office.

Roads Expected to Keep Records

Showing Violations of Rules

In the interests of reducing unremunerative car mileage to the lowest possible minimum and in order to remedy conditions which permit inefficient handling of cars, the Car Service Division expects all railroads to maintain records which will bring to the attention of executives the extent to which:

1. Home cars are loaded to off line points contrary to car service rule 1.
2. Foreign cars are forwarded contrary to car service rules 2 and 3.
3. There are other violations of car service rules 1 to 5.
4. There is reason or necessity for violations mentioned under items 1, 2 and 3.

The following suggestion is outlined as a simple method of keeping a summarized record of rule violations, and may be augmented as advisable or necessary to suit local conditions. Separation of violations by types of cars is recommended where there is general loading by types. Weekly count of:

- (a) Total foreign cars loaded.
- (b) Foreign cars loaded locally contrary to car service rules.
- (c) Foreign cars loaded to connections contrary to car service rules.
- (d) Per cent violations to total foreign cars loaded.
- (e) Home cars loaded off line separated by types and by roads.

- (f) Foreign cars of similar types delivered empty to connections, separated by roads.

A New Figure—Cars Out of Service

Due to Business Depression

In arriving at a fair total of surplus cars the Car Service Division has adopted a new category, "freight cars temporarily out of service due to business depression." This figure includes the total serviceable cars on hand in excess of current freight requirements and *in addition* includes bad order cars in excess of 7 per cent of the total number of freight cars. It is believed that this figure represents a better standard for present comparisons due to the difficult conditions respecting labor and materials of the past few years and to the fact that in a period of depression cars are allowed to remain in bad order for longer periods.

Freight cars temporarily out of service due to the business depression totaled 555,168 on July 23, according to reports just received from the railroads of the United States by the Car Service Division. This is a reduction of approximately 10,000 since July 15.

Reports show that surplus cars (not including those in bad order) on July 23 numbered 350,772, which was a reduction of 21,278 cars when compared with the total on July 15. This reduction was due principally to the increased demand in the Central Western region for grain cars. Surplus box cars totaled 119,442, which was a decrease of 16,191 compared with the July 15 figure, while surplus coal cars were reduced 5,049 to a total of 168,568. Surplus stock cars fell off 628 during that period, so that on July 23 they numbered 16,297.

Reports from the Central Western region show that the decrease in the number of surplus cars reported in that territory was not offset by any increase in the number of cars needing repairs but that the freight car situation in that part of the country has taken a turn for the better. Due to the demand for grain cars, a shortage of 2,768 freight cars was reported to the Car Service Division, of which 2,500 represented box cars. This was an increase of 1,500 over the total shortage reported on July 15.

Cars in need of repairs on July 15 totaled 365,092 or 15.9 per cent of the cars on line, compared with 354,611 or 15.4 per cent on July 1. Allowing for seven per cent being normal, cars in need of repairs above normal totaled 204,396, which added to the total surplus means 555,168 cars out of service because of business conditions.

Freight Car Loading

Loading of revenue freight totaled 790,348 cars during the week ended July 23, according to the reports of the Car Service Division of the American Railway Association. This was an increase of 14,096 cars over the preceding week but was, however, a decrease of 138,070 cars when compared with the corresponding week of 1920, and a decrease of 119,334 when compared with the corresponding week in 1919.

The principal increase during the week of July 23 was in the loading of grain and grain products, which totaled 64,919 cars, or 7,928 cars more than during the preceding week. This total was 29,442 cars greater than that for the corresponding week in 1920 and 13,374 cars in excess of that for the corresponding week in 1919. It also was 7,804 cars above the peak loading of any week since January, 1919, which is as far back as the Car Service Division records go.

Tabulations also show that from June 1 to July 28, inclusive, 362,800 cars have been loaded with grain and grain products. This is 100,000 cars more than were loaded with that commodity during the same period last year. It also exceeded the loadings for the same period in 1919 by 83,400 cars. An increase of 4,804 cars in the number loaded during the week of July 23, compared with the week before, with merchandise and miscellaneous freight, which includes manufactured products, was also reported. The total for the week was 467,889 cars, which was, however, 48,796 cars under that for the corresponding week last year.

Coal loadings totaled 152,142 cars, or only 26 cars more than during the preceding week, but 49,448 cars under that for the same week last year. It was also 31,641 cars below the total for the corresponding week in 1919. Tabulations show that the loading of livestock totaled 24,689 cars for the week, which was a decrease of 113 cars compared with the week before, while coke loadings increased 191 cars to a total of 3,928 cars. Forest products fell off 911 cars, the total being 43,126, and ore loadings were 33,655 cars, or an increase of 2,171 cars over the preceding week. Except for grain and grain products, the loading of all commodities was less during the week than during the corresponding week in 1920.

Compared by districts, all reported increases in the number of cars loaded compared with the week before but there were reductions in all except the Southwestern district when compared with the corresponding week of last year.

A Systematic Plan for the Movement of Freight Traffic

THE DISPATCHING and classifying of freight trains at all terminals on the Baltimore & Ohio is now conducted through the aid of a comprehensive system which constitutes a most excellent example of the manner in which scientific management may be applied to railway operation.

CINCINNATI TO ST. LOUIS - WESTBOUND

FOR ROUTES-- JUNCTIONS

CLASSIFICATION

DIVISIONAL POINTS

BUNCHING AND GROUPING

Refer to SYSTEM DISTANCE CHART

LAST SHEET

SEYMOUR TO SHOPS

Classification Symbol

Divisional Classification

Station order

Seymour to Shops

P Q

Bunch Shops proper with the locals between Shops and Cone

For Shops Yard and Flora Yard to classify and dispatch on head end of through trains except No. 97

P O

Bunch East St. Louis and beyond

For Shops and Flora to maintain and Cone to classify and dispatch

Dispatch in solid trains

Fill either way grouped with Symbol

R T

For solid trains empty roof and tank cars for East St. Louis and beyond Bunch all refrigerators, stock, box and tank cars

For Shops and Flora to maintain and Cone to classify and dispatch

Dispatch in solid trains

R T - on hind end

Note 1:

Foreign equipment enroute to home road via East St. Louis will be dispatched with Symbol - R T - Such cars at intermediate points east of East St. Louis will be forwarded on way freights and pickups.

Typical Sheet of Instructions for Handling Tonnage Trains and Local Freight

More directly it points to the solution of the perplexing problems of excessive terminal costs and delays to trains consequent on a lack of proper co-ordination in handling the work of the various yards on a given route. Briefly the system comprises an outline showing in minute detail where and how all trains shall be classified so as to move them over the line with a minimum of break-up between origin and destination,

while providing that this work shall be done at those points on the line where the facilities are most adequate for the particular requirements. The system is founded on a minute study of the physical characteristics of the property in the light of a detailed knowledge of the volume, source and nature of the traffic, and the operating limitations of the system, both as to yard and train movements.

The plan was applied to the eastern lines of the Baltimore & Ohio in 1919 and was extended to the entire system about six months ago. It is the natural consequence of a critical study of the traffic and facilities of the Baltimore & Ohio

ST. GEORGE - NEW YORK		FOR ROUTES - JUNCTIONS	
TO CHICAGO		DIVISIONAL POINTS	
NO. 97		Refer to SYSTEM DISTANCE CHART	
		LAST SHEET	
BRUNSWICK TERMINAL			
BUNCHING, GROUPING			
and DISPATCHMENT			
CHICAGO DIVISION			
97			
BRUNSWICK TO WILLARD			
Classification Symbol			
Y-17	Bunch all loading for Willard and beyond	}	For Cumbo, Cumberland, Connelleville, New Castle Junction to maintain and Willard to classify and dispatch
Note 1: When short of regular 97 tonnage, Brunswick will fill out with slow loading of Symbol Y-17.			
Note 2: This train enroute between Brunswick and Willard may pick up Symbol Y-17, slow or fast and place in train regardless of standing for Willard Yard to classify and dispatch.			
Note 3: If insufficient tonnage, slow and fast, to run New Castle Division Section, it shall be consolidated with Chicago Division 97 and be so maintained through to New Castle Junction and backed off.			

Specimen Page of Instructions for Handling Time Freight

which has been in progress for some time. The initial result of this was to improve the operation of the individual yards; further, it led to perfection in the handling of traffic on particular routes and ultimately the same degree of systematic direction in the movement and classification of trains has been extended to the entire system.

One fundamental idea carried out through all of this work has been to classify the trains completely as near the origin of the traffic as possible in such a way that they may be run through as many terminals as possible without breakup. For instance, Brunswick, Md., is the point where western movements are concentrated into solid trains for Pittsburgh, New Castle, Chicago and the St. Louis-Cincinnati lines. Similarly, Brunswick is the point where eastbound movements are reclassified for destination at the principal terminals on the seaboard. In like manner, Willard, Ohio, is the concentration terminal for freight eastbound from Chicago, the cars for the Atlantic seaboard being made up into trains that are not broken up until they reach Brunswick. The operation of this system as applied to time freight will be better understood by reference to the typical sheet taken from the volume of instructions from this classification. This shows the handling of time freight in the section of train No. 97 destined from New York to Chicago. Here it will be noted that this train is made up at Brunswick, Md., to run without breakup through Cumbo, Md., Cumberland, Connellsville, Pa., and Newcastle to Willard, Ohio, where the train is classified for destination so that it may be handled through Garrett, Ind., without change. As a consequence of this system, therefore, train No. 97 from New York to Chicago, suffers delays for classification only at two terminals in the entire distance.

The same system applies to tonnage trains, not only on through routes but on lines where much of the traffic is of

local origin and destination. The plan is to make up the train to run as great a distance as possible without breakup. This is illustrated in the specimen sheet No. 40 comprising instructions for the makeup of westbound trains at Seymour, Ind., the first engine terminal west of Cincinnati. This sheet shows four classifications. The first is EA, the local freight between Seymour and Shops, the next engine terminal to the west. The second classification, PQ local freight between Shops and Cone (East St. Louis) obviously must be reclassified at the other intermediate terminals. The other two classifications, however, cover freight destined for East St. Louis and beyond and the instructions specifically provide that this freight shall be made up in trains that are not to be broken up between Seymour and East St. Louis.

The responsibility for the observance of this classification rests primarily with the district and division officers of the system, with the assistance afforded by four district supervisors of terminals located at Cumberland, Md., Wheeling, W. Va., Willard, Ohio, and Cincinnati, under the direction of the general supervisor of terminals. The benefits derived from this system now accruing to the Baltimore & Ohio have been found to include: Increased engine miles; increased car miles; decreased per diem; decreased overtime; decreased terminal time and minimum switching in all yards; quick and dependable freight service; lessened liability to claims from delays in transit and lessened opportunity for thefts by delays in yards.

The system was developed and put into practice under the direction of E. T. Horn, general supervisor of terminals, Baltimore, Md.

The Value of the Tracing Service*

By P. W. Gates

Tracing and Reconsignment Bureau, Southern Pacific Company

IN DISCUSSING the value of tracing service it is well to make some distinction between the value of the service to shippers and consignees on the one hand, and to the railroad companies themselves, on the other. For many years the railroads have maintained a tracing and manifest system for recording the movements of their cars for the benefit of their patrons. In recent years, however, owing to the keen business competition, there has been a growing demand for the extension of this service with the result that today the carriers have perfected an elaborate automatic tracing system at considerable expense which enables them to keep shippers and consignees fully informed daily as to the location of their freight. This service enables merchants to: (1.) Divert, (2.) Re-consign, (3.) Make more favorable arrangements for handling, (4.) Create a better market for their freight, (5.) Carry on their business without being obliged to tie up considerable funds in goods which are in transit, (6.) Protect themselves from the rise and fall of the market. In addition, it enables smaller purchasers to secure passings on shipments contained in pooled or consolidated cars.

This valuable information is given out by the railroads to their patrons without solicitation, and materially assists them in building up undeveloped business. As an example of the extent to which patrons of the Southern Pacific make use of the information disseminated by our tracing system, it has developed that our traffic department sent out approximately 48,000 wire tracers, locating and expediting freight during 1920. This service, it must be borne in mind, was entirely apart from the individual wiring done by our respective superintendents over the system, and indicates the great value of the tracing service to the public.

*Abstracted from an address before the Pacific Railway Club, Oakland, Cal., May 12.

Tracing Improves the Carriers' Service

Undoubtedly one of the greatest values the carriers derived from their tracing service is increased tonnage. But in addition to more business, tracing also enables the carrier to improve the service which they are rendering by locating the delays occurring at terminals or junctions and by determining whether or not their schedules are being maintained. It also assists the traffic departments in tracing shortages, and in locating waybills for cars which are held up on account of lost revenue billing, an occurrence which causes delays all too frequently. The service also prevents delays to cars which may have been set out for repairs or to reduce engine rates. In short, it serves as a check by which the road may determine whether or not every link in its freight service is performing its function properly.

The tracing service is not without its evils and abuses, however. Experience has made it clear that many merchants have the impression that any shipment, whether carload or less, should be followed with a tracer immediately after being shipped, to insure its prompt movement. Other shippers make a practice of requesting the services of a tracer when their shipment has been in transit only a few days. This sort of tracing does not produce satisfactory results. On the contrary, it results in congestion of the wires, as well as freight jams at junction and terminal points, thus destroying the efficiency of legitimate tracing. The carriers should make every effort to discourage requests for this sort of tracing and should encourage their patrons to permit sufficient time to elapse for their freight to reach its destination before calling on the tracing service. Articles in various periodicals indicate that a large number of industrial associations are making an organized effort to eliminate this unnecessary tracing. For instance, the National Industrial Traffic League has appealed to its members to confine their requests for tracing to their actual needs. In addition, the American Railway Association, together with the Western Weighing and Inspection Bureau, has suggested to its members that the practice of tracing cars from shipping points to destination immediately after the freight has been offered for shipment be confined to cases of real necessity.

A New Specification for Rails

By Robert W. Hunt,

Robert W. Hunt & Co., Chicago

MY INTEREST in and connection with the manufacture of steel rails have extended over the entire period of their production; and the establishment of specifications governing their manufacture which, while resulting in the output of good rails should at the same time be of practical commercial application, has received my careful thought. At this time the subject of rail specifications is, as always, of importance, but, unfortunately, is in a somewhat unsatisfactory condition, owing to the difficulty of the rail manufacturers and rail consumers uniting on various phases of a specification aiming toward improved practice.

There is, I think, very little, if any, dissatisfaction with the actual wear of open-hearth steel rails. What the users desire, most of all, is a safe rail; meaning by that rails that, while generally affording good long life under usual traffic and roadbed conditions, are free from sudden failures. This the roads do not feel they are obtaining, and, in addition to the annoyance and expense caused by defective rails which have to be removed from track after comparatively little service, the anxiety and menace to life caused by actual broken rails is at the same time very great. Head failures in rails rolled from metal forming the tops of the ingots are apparently on the increase and internal fissures constitute a most dangerous defect deserving of the fullest study.

It is not my purpose now to go into any long discussion of the merits of various rail specifications, but it seems to me that the time is opportune to present a specification for consideration which I believe offers many advantages not found in others. Those portions of this specification which vary from other specifications in common use appear below.

I have been claiming for many years that each ingot cast on a heat is a unit unto itself and deserving of being tested and treated as such. It is nearly ten years since I recommended the nick and break test on every ingot, and the practicability of the method then proposed has been thoroughly demonstrated by the fact that practically all rails made in Canada for the last six years have been so tested. But, because of the loathness of American manufacturers to permit it, the system has not been given a thorough trial in the States; and I am now proposing that in lieu of this plan of testing, if the manufacturer desires, the top rails of each ingot can be rolled into tie plates to be hot punched, sheared and annealed, which the purchaser agrees to accept in place of the tonnage of "A" or top rails that he would ordinarily obtain under his contract. Tie plates made from such steel have given good satisfaction for several years and, no doubt, those manufacturers whose works are not now properly equipped will be glad to install the machinery for producing them to aid the railroads in obtaining better rails.

I have been convinced for a number of years, and actual experiences have proven that the cold straightening of rails can be minimized very much and in some cases eliminated without detriment to the track conditions, and with such obvious saving to the manufacturers as would more than cover the cost of milling the ends of the rails square and free from burrs. Better attention to the soaking pit practice and restricting the cold straightening, I believe, will ultimately afford relief from the development of internal fissures.

The attached specification is not offered as the best that can be proposed. It is presented with the thought that it may help to compose the difference existing between rail makers and users and to afford the groundwork for a common standard which will insure good safe rails at the base price.

Specifications for Open-hearth Steel Rails

80 lb. to 110 lb., inclusive, per yard

Chemical Requirements

4. Chemical Composition and Analyses. (a) The chemical composition of each heat of steel from which the rails are rolled shall comply with the following:

Carbon, not less than.....	.60 per cent
Manganese, not less than.....	.60 per cent
Phosphorus, not more than.....	.04 per cent
Silicon, not less than.....	.10 per cent

(b) Rails rolled from heats containing more than .75 per cent of carbon shall have the flanges near the ends painted yellow and be shipped separately, provided, however, that such heats do not have either the manganese content over .90 per cent or the phosphorus content over .03 per cent.

(c) A chemical analysis for each element above mentioned, including sulphur, shall be made on each heat of steel cast for rails. The analysis shall be made on approximately equal portions of carefully mixed drillings taken from two ladle test ingots, one representing the steel going into the second regular ingot cast, and the other that going into the next to the last regular ingot. The methods for making the analyses shall be those adopted by the American Society for Testing Materials.

(d) The ladle test ingots shall be of such shape and size as to induce quick sound setting of the steel and, if necessary, a few pellets of aluminum may be added to the dipper to insure soundness. The drilling for analyses shall be taken not less than one-eighth inch beneath the surface.

(e) The complete analyses of each heat cast for rails shall be available for the inspector as promptly as possible and he shall always be furnished with a copy of it before the rails are loaded.

(f) The inspector may witness the manner of obtaining the drillings for analyses and the methods employed for analyzing, and he may take a portion of the original drillings at any time for checking purposes.

10. Drop Tests. (a) If two of these test pieces do not break at the first blow, all of the rails of the heat shall be accepted, subject to the requirements of Section 11.

(b) If two of the test pieces break at the first blow, all of the top rails of that heat shall be rejected.

(c) Second tests shall then be made from three test pieces selected by the inspector from the bottom end of the top rails of the same heat and ingots. If two of these test pieces do not break at the first blow, all of the remainder of the rails of the heat shall be accepted, subject to the requirements of Section 11.

(d) If two of these test pieces break at the first blow, all of the second rails of the heat shall be rejected.

(e) Third tests shall then be made from three test pieces selected by the inspector from the bottom end of the second rails of the same heat and ingots. If two of these test pieces do not break at the first blow, all of the remainder of the rails of the heat shall be accepted.

(f) If two of these test pieces break at the first blow, all of the remainder of the rails of that heat shall be rejected.

11. Destruction Tests. (a) A test piece representing the top end of the top rail from each ingot of each heat rolled, which has passed the drop test requirements of Section 10, shall be nicked and broken to determine whether the interior metal is sound. If an interior defect shows on the fracture, the top rail of the ingot represented shall be rejected and a second test piece cut from its bottom end shall be nicked and broken to determine the character of the metal of the second rail. If an interior defect shows on the fracture, the second rail shall be rejected and a third piece cut from its bottom end for retesting. Thus the rails of each ingot shall be tested progressively from the top downward until the fracture shows sound metal, following which the rails of the ingot represented shall be accepted.

(b) An interior defect is interpreted to mean seams, laminations, cavities or interposed foreign matter, or a distinctly bright or fine grained structure in the center of the section evidencing segregation, made visible by the destruction tests, the saws or the drills.

(c) Rails represented by test pieces found to be segregated shall be accepted as No. 2 rails.

(d) If, under the drop test requirements of Section 10, the "A" and "B" rails of a heat have been rejected, but the "C," "D," "E," etc., rails accepted, the destruction tests herein specified will be waived on the accepted rails of that heat.

12. Optional Conditions. (a) In case the manufacturer elects after due notice, the purchaser agrees to accept hot sheared, punched and annealed tie plates rolled from the steel that would, in the ordinary course of the manufacturer's practice, be rolled into "A" or top rails from the ingots cast under this specification. It is understood that such tie plates shall be in accordance with purchaser's drawings and specifications.

(b) When a top discard of not less than twenty per cent is made on all ingots from which rails are offered for test and inspection, Section 11 shall be waived.

Details of Manufacture

15. Quality of Manufacture. (a) The entire process of manufacture shall be in accordance with the best state of the art.

(b) The steel must be well deoxidized in the furnace or ladle before the ingots are teemed, and the use of aluminum in the molds to insure the quiet setting steel desired will not be permitted.

(c) Heats or ingots, the metal for which has been poured over the top of the ladle or cast with a full running stopper not under control of the operator, will not be rolled.

(d) Special care must be taken to insure the casting of good, clean, sound ingots, free from scabs and cracks and with reasonably flat tops. Bled ingots shall not be rolled.

(e) Treatment of the ingots in the soaking pits must be such as to insure thorough soaking with the subsequent increase of temperature necessary. Overheated or burned or white sided ingots shall not be rolled, neither shall ingots that have once been allowed to get cold.

22. Finishing. (a) All rails shall be smooth on the heads, without rough crescent-shaped marks, and the bases shall be free from guide marks and scratches. They shall be milled square on both ends, but a variation of one thirty-second inch in a vertical direction to make head-long rails will be permitted.

(b) All rails shall be free from twists, waves, kinks or short bends, but rails containing a uniform sweep, the middle ordinate of which does not exceed 1 in. in 33 ft., will be accepted without cold straightening.

23. Branding. (b) The number of the heat and of the ingot number in the heat and a letter indicating the portion of the ingot from which the rail was made shall be plainly stamped on the web of each rail where it will not be covered by the joint bars. The top rails shall be lettered "A" and the succeeding ones "B," "C," "D," etc., consecutively; but in case of a top discard of 20 per cent the letter "A" will be omitted, the top rail becoming "B."

Labor Board Orders New Election on Pennsylvania

"Middle of the Road" Decision Finds Both Carrier and Employees Guilty of "Unfairness"

THE RAILROAD LABOR BOARD in rendering a decision on August 1 in the controversy between the Pennsylvania and its shop employees, not only finds both the carrier and the employees' organization guilty of "illegal and unfair" action in the selection of representatives to negotiate new rules and working conditions, but definitely overrules the contention of railroad labor organizations that the representatives of a majority of a class have the sole right to negotiate for the entire craft and establishes a method for determining who properly represents both the majority and the minority of the employees. At the same time the decision upholds two positions of the employees, namely, that they shall be allowed to vote for either an organization or individuals as they wish; and, second, that they may vote for representatives who are not employees of the road.

The hearings in this dispute were outlined in the *Railway Age* of July 16 (page 115).

A new election of employees' representatives is ordered under conditions laid down in the decision; and a conference between the carrier and representatives of the employees is required before August 10 to arrange the details for the new election.

The Pennsylvania's contention that the Board has no jurisdiction over the question of National Agreements under the terms of the Transportation Act in that that subject has never been properly before the Board, is not passed upon, the Board stating it is of "secondary importance" since "the questions involved arise directly from the Transportation Act itself and are properly before this Board for disposition."

The Board said: "There is no question of the closed or open shop involved in this dispute and no other real matter of principle. The question involved is merely one of procedure. At a time when the nation is slowly and painfully progressing through the conditions of industrial depression, unemployment and unrest consequent upon the war, it is almost treasonable for any employer or employee to stubbornly haggle over non-essentials at the risk of social chaos."

The Opinion of the Labor Board

The opinion of the Labor Board reads in part as follows:

It matters not whether the carrier, in its recent efforts to negotiate rules, was proceeding under the order of the Labor Board in Decision No. 119, or whether it was proceeding under the Transportation Act itself, as it claims. The fact remains that both the carrier and its employees were taking steps to hold conferences for the negotiation of rules, that a dispute arose at the very outset in the conference between the carrier and the representatives of the employees who constitute System Federation No. 90, and that this dispute is now before the Board.

The question involved is one necessarily incident to the negotiation of rules and within the unquestioned jurisdiction of the Board. It is quite obvious that no conference could ever be held and no rules ever agreed upon, if either party could block the proceedings by declining to deal with the other upon any ground or pretext.

For the purposes of this case, the arguments of the parties pro and con as to the regularity and validity of Decision No. 119 are of secondary importance. The questions involved arise directly from the Transportation Act itself and are properly before this Board for disposition.

In the case under consideration, the matter in dispute was the adoption of a schedule of rules and working conditions for the shop crafts on the Pennsylvania System. Both the carrier and the employees were taking steps to hold the conference required by the Transportation Act, and directed by Decision No. 119. Naturally, the question arising at the very threshold of the negotiations was: Who are the accredited representatives of this class of employees for the purposes of the proposed conference? The carrier had the right to know this fact, just as the employees had

the right to know that they were dealing with the properly authorized representatives of the carrier.

It is true that the federated shop crafts claim that the carrier knew that their organization constituted a majority of that class of employees, and that the carrier was not in good faith in refusing to deal with their representatives. This Board cannot enter into the motives of the parties. The carrier did not deny that said organization comprised a majority of that class of employees, but merely stated that no evidence of the fact had been furnished to the carrier.

It is evident that since the statute provides that the employees interested in the dispute be represented in such a conference by representatives "designated and authorized" by said employees, it necessarily follows, under our system of government, that a majority of such employees would have the right to designate their representatives.

The Transportation Act does not prescribe any method by which the employees shall elect their representatives for such conference. Both the carrier and the employees in this case correctly concluded that an election by ballot would be necessary. It was at the next step that both parties fell into error.

The carrier had no more right to undertake to assume control of the selection of the representatives of the employees than the employees would have had to supervise the naming of the representatives of the carrier, for the statute plainly provides that the employees shall "designate and authorize" their representatives. It is entirely proper, however, that the carrier should keep in close touch with said election, and should be given every facility for first-hand knowledge of the manner in which it is conducted and the correctness of the result reached and announced.

The carrier was not justified in refusing the request of the employees to place on the ticket the name of the organization. The granting of this one request would have avoided all trouble, and nobody would have suffered any injury, because the name of any other organization or the names of individuals could have appeared on the ticket, and all employees, union and non-union, would have had the right to vote. If a majority of the employees had not wanted to be represented by the organization, they would have had the unobstructed right to say so.

Representation by the organization is only representation by individuals after all. There is nothing in the statute to deny the employees the privilege of belonging to an organization and being represented by that organization through its accredited officers. In fact, this has been the established custom for many years and is recognized in the Transportation Act itself.

The Transportation Act says the "chief executive of any organization of employees" is authorized to submit to the Labor Board any dispute where disagreements have occurred in the conference between the carrier and employees. The existence of the organization of employees is thus recognized as it is elsewhere in the statute.

The Labor Board also holds that the employees may vote for representatives who are not employees of the carrier, if they so desire, just as the carrier may select a representative who is neither a director nor a stockholder. It seems, however, that the employees in this instance were not asking to have the name of any outsider placed on the ballot, but simply the name of their organization, which would have resulted, as the carrier well knew, in the employees being represented by the officers of the organization who are employees of the carrier.

Carrier Had no Authority

To Divide System Into Regions

The carrier had no legal authority to divide its system into regions and require the employees to elect regional representatives. The Transportation Act contemplates that the employees of the class directly interested on an entire system shall select representatives. It is easy to see how an arbitrary regional division of the employees by the carrier might be as unjust as it is unlawful.

After having failed to reach a satisfactory agreement with the carrier as to the ballot, the shop crafts put out a ballot of their own with no provision for any representatives to be voted for, except organizations. This was not authorized by law and ignored the rights of the non-union men.

Neither election, as held, was fair and legal. As a consequence of the failure of the parties to agree upon a method of holding an election, the employees have so far been denied their legal

right to select their representatives for this important conference on rules. As evidence of the fact that no real test of the choice of the employees has been had, the carrier in its own presentation to this Board admits that, exclusive of the Altoona Shops, only 3,480 men voted, out of 33,104 entitled to vote, for the alleged representatives who are now negotiating rules. In other words, only 10.5 per cent of these employees are represented in these negotiations, and 89.5 per cent are virtually disfranchised. This is the big, outstanding, uncontroverted fact presented in this case, and undoubtedly the law provides a remedy for such a wrong.

It is the duty of the Labor Board to settle this dispute by providing a method that will protect the legal rights of every employee, union and non-union, to the end that the carrier and this class of employees may proceed to the orderly negotiation of rules.

Neither of the parties to this dispute can serve the country, or justify themselves in the eyes of the public by any amount of propaganda, if they permit a controversy over small technicalities to interrupt commerce and bring loss and suffering upon themselves and the public.

There is no question of the closed or open shop involved in this dispute and no other real matter of principle. The question involved is merely one of procedure.

At a time when the nation is slowly and painfully progressing through the conditions of industrial depression, unemployment and unrest consequent upon the war, it is almost treasonable for any employer or employee to stubbornly haggle over non-essentials at the risk of social chaos.

The Board's Decision

The actual decision of the Board in this case is as follows:

Under the authority of the Transportation Act, as hereinbefore cited, the Labor Board hereby declares that both of said elections on the Pennsylvania System were illegal and that rules negotiated by the alleged representatives selected by either ballot will be void and of no effect, and orders that a new election be held.

For the purpose of determining the choice of a majority of each of the respective crafts coming under the provisions of this decision the following shall govern:

- 1-a. All machinists, apprentices, and helpers, as defined in and coming under the provisions of Decision No. 2 (Dockets 1, 2 and 3), issued by the United States Railroad Labor Board under date of July 20, 1920, in the service of the carrier, including Altoona Works, and including all employees coming under the provisions of this decision who have been laid off or furloughed and are entitled to return to the service, under the seniority rules, when the force is restored to what is generally recognized as constituting a normal force, if accessible, shall be furnished a ballot and be permitted to vote.
- 1-b. All boilermakers, apprentices, and helpers, same definition and conditions as set forth in preceding 1-a to apply.
- 1-c. All blacksmiths, apprentices, and helpers, same definition and conditions as set forth in preceding 1-a to apply.
- 1-d. All sheet metal workers, apprentices, and helpers, same definition and conditions as set forth in preceding 1-a to apply.
- 1-e. All electrical workers, apprentices, and helpers, same definition and conditions as set forth in preceding 1-a to apply.
- 1-f. All carmen, apprentices, and helpers, same definition and conditions as set forth in preceding 1-a to apply.

A conference shall be held on or before August 10, 1921, at such place as the carrier may designate (of which due notice shall be given to all parties interested), between the duly authorized representatives of the carrier and the duly authorized representatives of System Federation No. 90; the duly authorized representatives of any other organization (representing the classes of employees set out in preceding 1-a to 1-f inclusive) whose by-laws or constitution establishes the fact that the organization was established for the purpose of performing the functions of a labor organization as contemplated in Title III of the Transportation Act, 1920; and the duly authorized representatives of 100 or more unorganized employees, selected by the respective crafts set out in the preceding 1-a to 1-f inclusive, for the purpose of arriving at a clear understanding as to the distribution, casting, counting and tabulating of the ballots and announcing the results thereof.

NOTE.—Representatives of unorganized employees authorized and desiring to attend this conference must have the individual and personal signature and authorization of not less than 100 employees of a single craft, such authorization shall likewise name the place of employment and craft to which each belongs.

The employees shall, at their own expense, have ballots and envelopes printed in sufficient numbers to provide each employee an opportunity to vote.

Six sets of ballots and envelopes shall be printed, a separate and distinct ballot for each craft as per the following, and only the craft named thereon shall be permitted to use the ballot:

PENNSYLVANIA SYSTEM

Machinists, Apprentices, and Helpers
Official Ballot

A dispute exists between the carrier and System Federation No. 90 of the Railway Employees' Department of the A. F. of L., as to who the employees, in the craft above named, desire to be represented by in the conference to negotiate rules and working conditions.

The machinists, apprentices, and helpers, irrespective of membership or nonmembership in any organization, are therefore to be given an opportunity to designate, by a majority vote, the representation of their choice, as follows:

Those in favor of either of the following will designate their choice by marking an X in the square set out for that purpose.

Those who desire to be represented by System Federation No. 90, Railway Employees' Department of the A. F. of L. mark an X in this square ☐

Those who desire to be represented by the American Federation of Railroad Workers, mark an X in this square ☐

Those who desire to be represented by individuals or by any other organization, write the name of such individual or organization here:

..... and mark an X in this square ☐

Place employed
Craft
Actually working
Laid off or furloughed
Name of voter

If, in any craft, no organization or individual receives a majority of the legal votes cast, a second vote shall be taken in the same manner and on the same kind of ballot, but the second ballot will contain only the names of the two organizations or individuals receiving the highest number of votes cast in the first election.

The vote shall be taken by crafts, each craft to include mechanics, apprentices and helpers, a majority of each of the respective crafts shall have the right to determine by whom they desire to be represented; this right shall not be construed to mean that employees shall be denied the right to name an organization as their representative, neither shall it be construed to prevent the employees from naming an individual who is not an employee of the carrier.

A general committee, composed of duly authorized representatives of the carrier, duly authorized representatives of System Federation No. 90, and the duly authorized representatives of any other organization or 100 or more unorganized employees participating in accordance with the provisions of this decision, will be located at designated places for the purpose of distributing, receiving, counting and tabulating the results of the ballot.

A local committee composed of the duly authorized representatives as above outlined will be established at each division point and at Altoona Works for the purpose of receiving, distributing, packing and forwarding the ballots by express or registered mail to the general committee. Local committees will see that each employee is given every opportunity to vote and that his ballot is placed in envelope and sealed; the local committee shall also keep a record of the ballots received.

Only the general committee is authorized to open envelopes and count the ballots. Where the force is limited and the local committee cannot be procured, arrangements shall be made to place ballots in the hands of such employees and they shall be properly instructed as to the manner of getting their ballot to the general committee.

The ballot should be completed at the earliest possible date. No one but the general committee is authorized to open, count and tabulate the returns of the ballot, and all parties to the dispute are entitled to be present when any ballots are opened and counted.

When the ballots have been canvassed, the result shall be reported to the Labor Board and the representatives of the carrier and the employees will proceed with the negotiation of rules.

If either party to this dispute believes that the spirit and intent of this decision is not being complied with, the complaint should be filed with the Board with all supporting data.

THE SUPREME COURT of the state of Minnesota, held on July 22, in affirming the Lake County District Court in the matter of application of the Duluth & Northern Minnesota to abandon this railroad, that the Minnesota Railroad and Warehouse Commission has no power to order the abandonment of a railroad on the plea the railroad can be operated only at a loss. The court held that the order of the State Commission authorizing the abandonment as of April 1, 1921, was made without authority. The Interstate Commerce Commission recently ordered the abandonment of the road.

Suggestions as to Economies in Railroad Operation

An Amplification of the Article by F. J. Lisman on "Remedies for Wastes in Railway Operation"

By Geo. R. Henderson

AT FIRST SIGHT, many things in railway operation appear to be wastes that are good business propositions. The abandonment of light locomotives, although in fair condition, for modern, powerful engines, while a seeming extravagance, results in decreased hauling costs well worth the additional investment, just as in the case a few years ago, when the Chicago Edison Company stepped out of a plant a few years old, into one where the generators had a much better water rate per kilowatt-hour.

The Pennsylvania Railroad has spent many dollars in reducing grades and curves, which would probably not be allowed as a capital betterment, but the operating results show the wisdom of such improvements. The expensive bridging of the Des Moines River Valley by the Chicago & North Western 20 years ago, eliminated heavy grades and bad curves which had been responsible for more than one accident. An expensive grade reduction on the same line brought about an *increased fuel consumption* per ton-mile, although the costs of operation as a whole were reduced.

At other times there are operating costs which seem to be abnormal, and yet if these were rectified, the public would suffer great inconvenience. A case in point would be the reduction in service as on branch lines, which are generally feeders for the main line. When we consider that it requires three times the power to haul people in sleeping cars that it does in day coaches, the waste is evident, yet sleeping cars will certainly never be abolished on our railroads. There are real wastes, however, that are often the result of competition or a desire to obtain statistical showings. Light engines are sometimes sent over a division ahead of an overloaded drag freight (instead of being double headed) in order to increase the tons per engine mile, the light engine not being considered in the train computations. There are cases of parallel roads where one has much easier grades than the other, and if the loaded trains were sent over the low grade line and the empties returned over the steeper grades, joint economy of operation would result, but this can only be accomplished by government ownership—a much greater evil.

A superintendent who was to receive a lot of new cars from a car building company on a foreign line had the cars loaded with sand consigned to his road, whereby he paid for hauling the sand, but obtained car mileage for the use of his cars from the delivering road, thereby saving a round sum for his road and obtaining speedy advancement for himself, but there was really a waste in hauling the sand, which came out of the operating expenses of both roads, to some extent.

These are just a few suggestions to show how easy it is to be misled, even by the regular statistics, unless all the facts are known in each case, and for all the various occasions of operation, the study would become one of endless complexity.

Division of Costs

In the *Railway Age* of July 9 in his article entitled "Remedies for Wastes in Railway Operation," F. J. Lisman made a number of valuable suggestions regarding the methods of keeping accounts so that wastes and losses could be located and properly assigned to the various classes of traffic. This would mean the addition of much clerical labor, unless some of the present reports could be discontinued. There is always danger in starting the compilation of new statistics, that they may be continued indefinitely after the need for

them has expired or that they will so flood the officer who should scrutinize them, that they will get to the files without imparting their information to those who could profit by it.

Referring to the many investigations by state and federal commissions, one can sympathize with the manager of a road that, when asked what were his duties, replied "chiefly answering fool questions before commissions." The vice-president of an important line recently made the statement that the time had come when a road needed three sets of officers, one to operate the property, one to appear before commissions, and the other set to go to jail. All of which goes to show that investigations and reports can be, and often are, carried to an extreme. At the same time, rational reports carefully studied, are essential to every business.

In general, expenses may be divided into Hauling Costs and Terminal Costs, and even the general expenses can be prorated, if necessary, between these, but it is the *actual* detail costs that are of the greatest interest. Expenses for maintenance of way and equipment and conducting transportation are mostly hauling charges, while expenses for maintenance of buildings and yards are principally terminal charges referring to the handling of goods and passengers. Expenses relating to the care of cars and locomotives at shops and roundhouses are really hauling charges and should be so considered. If we desire to go into details, we will need very different records from those which show the division costs on a ton-mile basis only. For the same division and same fuel and supply costs per ton or other unit, the cost of transporting various commodities will depend upon the speed, the car loading and the type of cars needed for the goods which are hauled.

Speed

Speed increases the cost of hauling in a very striking manner, principally as the train load must be greatly reduced if we wish to haul at high speeds (with electric traction the case is different, but we are here considering steam locomotives). As a locomotive has a horsepower limit, depending upon its boiler capacity, it follows that at twice the speed, only one-half the tractive effort will be available; at three times the speed, only one-third the tractive effort, approximately. The coal burned per ton-mile may not vary greatly, but as the crew is paid by the mile (overtime not considered) the costs per ton-mile mount rapidly, being roughly from 1½ to 2 times as much at 30 miles per hour as at 15 miles. The exact amounts depend on the grade, cost of coal and supplies, car repairs, wages, etc., but they can be definitely determined in any case, as demonstrated in "The Cost of Locomotive Operation" by the author and published by the Railroad Gazette a few years ago. This demonstrates the expensive nature of handling livestock, and when to this is added the possible depreciation of the load if the cattle are not delivered in time for the market, we can easily understand the suggestion of an operating officer that his competitors should be allowed to take the stock business.

Passenger traffic is even more expensive. The 18 hour trains between New York and Chicago were so notoriously costly to operate that for several years they have been abandoned.

It has been demonstrated that a speed of about 15 miles per hour is the most economical for ordinary freight trains,

and such commodities as coal, ore, lumber, etc., cost less to haul per ton on account of speed alone than fast freights, such as perishable fruits and live stock. If the speed is arranged to suit the goods, the most economical transportation results—in any case the cost of the speed factor—may be determined by careful study, but it requires time and patience. High speed trains, either passenger or freight, cause delays and therefore expense to other trains which must give them safe clearance.

Car Loading

Car loading affects the cost very seriously, not only because the paying load may be a small percentage of the gross train load, but also because lightly loaded cars require more tractive effort per ton than heavily loaded cars. All this is too well known to need elaboration here, but it is well to remember the bearing of this upon the cost of hauling, and it is possible to figure the cost of such loads. The question of minimum loading is continually being fought out between shippers and railroad, but there is no question about its costing more to haul light loads. Perhaps a sliding scale would be equitable to all concerned. Then it might be possible to use containers for parcels to one consignee, and fill a car with such containers from several points and deliver them in the same way. This has recently been tried by the express companies, and corresponds somewhat to the small car units in Europe. In any event it seems as if much could be accomplished by co-operation between the shippers and the agents.

Car Types

The selection of car types means much to a railroad, but is not often duly considered. If we compare the relative costs of flat or gondola cars and box or refrigerator cars, we see at once that one vehicle may cost three or four times that of another, so the repairs and maintenance will vary, as also the obsolescence charges. Of course, different commodities pay different rates for transportation, but these are seldom based upon the actual cost of movement. The more costly cars are certainly entitled to higher rates, which is another reason why roads hauling coal and ore are often considered so much more desirable from a business standpoint.

Terminal Costs

Terminal costs would properly cover switching, receiving and loading, and unloading, storing and delivering, including sorting, handling, etc. Yards and buildings are a necessary feature and entail much expense, of which the railroads would be glad to rid themselves. Terminal buildings are always doubtful assets as far as returns are concerned. Note the expensive passenger station of the Pennsylvania Railroad in New York City and consider how many passengers have been induced by this structure to use that road in preference to others. The New York Central station will be more profitable on account of the improvements of "air rights," but as a rule little additional traffic is induced by costly terminals. Probably freight facilities are of more value as traffic producers, where electric cranes are available for handling heavy loads, and where storage facilities are ample to protect goods from weather and theft.

When full car loads can be taken from shippers' sidings or yard tracks and delivered in the same way, these are only the switching and accounting costs to be covered, and no doubt this would be an ideal arrangement, if universally practicable, but unfortunately, it is not and never will be. Small and various kinds of packages must be handled in and out at the expense of much unremunerative labor; that is, the labor has added no value to the goods, but rather damage. This costs the railroad companies much more than to shift a car to a siding or independent yard. Many terminals for receiving freight have only manual labor to sort

and handle the goods, whereas electric trucks, conveyors, etc., might save a lot of high priced workmen. Of course, the variety of goods and packages militates against a too elaborate mechanical layout, but there is no doubt that much could be accomplished if carefully considered. As above mentioned, special containers might help in many cases. Then terminal expenses must be considered in connection with short hauls. It costs as much to load a car for a 25 mile journey as for one a hundred times as long, but the carriage returns are inconsiderable in the former as compared with the latter and expensive floor space is occupied regardless of the journey. This leads to the conclusion that many railroads might, with profit to themselves, operate a line of motor trucks, or at least have a working arrangement with trucking companies.

Let us consider the routine of a package to be forwarded 25 or 50 miles. It must be carted from shipper to railroad freight station, removed to platform, sorted and loaded before it really starts on its journey, which may be the next day. The opposite course of events will follow on arrival and two or three days elapse between the time it leaves shipper until it reaches its destination. If now this were taken by motor truck, it would go direct from shipper to consignee in possibly four or five hours and much handling and expense thereby would be saved. With long hauls this would be entirely different, as the terminal delays would be a small proportion of the total time of the journey. Another advantage would accrue, and that is, freight cars would increase their mileage enormously by eliminating the short haul and instead of 25 miles a day they might make considerably more, all of which would mean a much greater return on the investment. These ideas may sound radical, but it is believed that they are worth serious thought, and careful computations would, no doubt, produce astonishing figures. Just what length of haul would be most economical for truck service would have to be determined for each district; probably 100 miles or so would be the limit. The value of terminal space thus gained should be taken into consideration, as in some localities a high price is paid for freight stations.

Co-operation is necessary between all the interests if waste is to be reduced to a minimum, but this should not eliminate a healthy competition, for the public benefits most thereby. This is why we have sleeping and dining cars, even on short runs, as people will travel over the road that offers the most conveniences, even at somewhat greater expense. Roads should compare figures and obtain the benefit of each other's experiences, as they do in the mechanical conventions, and as all intelligent officers approve, but careful analysis and investigation into the detail costs of each section and commodity will probably well repay for the time and expense of such work, and may lead to changes in methods of operation that would be productive of many economies.

The Cash Register in a Ticket Office

A SPECIALLY DESIGNED cash register is in use in the consolidated ticket office at Dayton, Ohio, which is effecting measurable economies in the accounting of the office. When the offices were consolidated during the war there was a shortage of efficient ticket sellers which made the simplification of operations highly desirable. At the end of each day's business each ticket seller had to make out a report of his day's sales, classifying them by railroads. This work made it necessary for the sellers to remain a long time after the closing hour. Because of the shortage of efficient sellers it was believed that any system which would promote efficiency would make it possible to get along with fewer employees; and by making the work easier the places would be more attractive to those seeking positions. The National Cash Register Company, after studying the problem, designed a cash register to meet the needs of the situa-

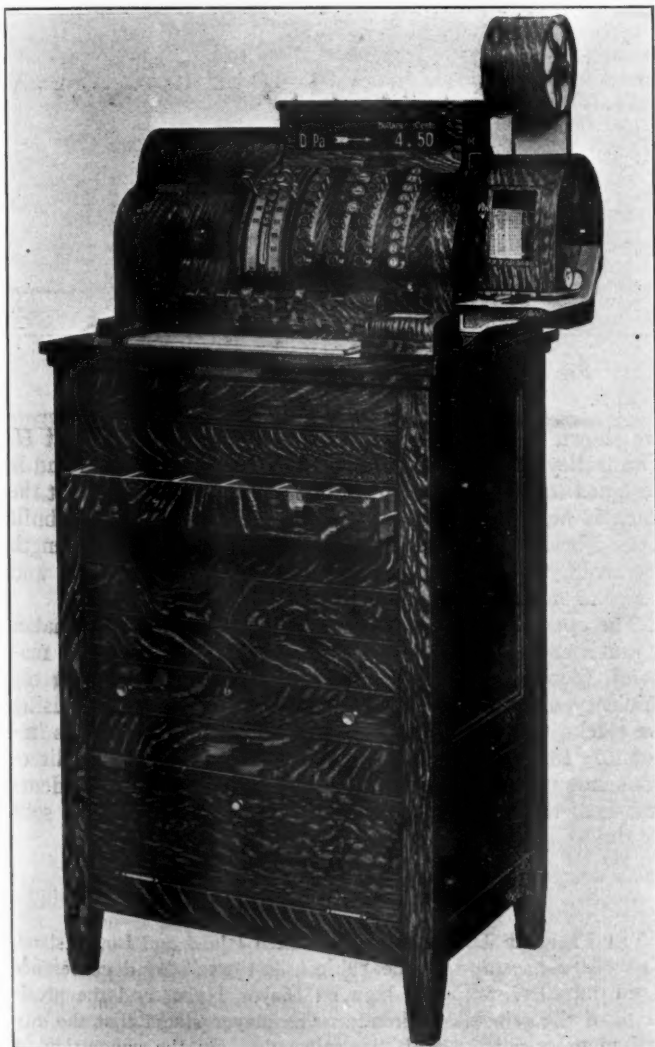
ABO-4.50	-0001	MAR-1-21
CLERK AND TRANS.	Amount	TRANSACTION NUMBER
		Date
U. S. RAILWAY ADMINISTRATION CONSOLIDATED TICKET OFFICES DAYTON OHIO 19 South Ludlow St., Gibbons Hotel Bldg. Phone Ludlow 150		

RA BO	-4.50	-0001
RB B4	-2.10	-0002
RE PA	90.00	-0003
RE PA	25.40	-0003
RD ER	-3.70	-0004
RH DU	-1.15	-0005
RK CL	-0.75	-0006
RB PL	-4.40	-0007
RA RF	-9.00	-0008

A Receipt Printed by the Register and a Section of the Recording Tape

tion and this machine has been in successful service since that time.

When a ticket seller makes a sale he takes the cash, goes



Cash Register in Use in Consolidated Ticket Office, Dayton, Ohio

to the register and records the transaction. This record credits the railroad with the amount collected and also gives it credit for one ticket sold; it adds the amount of the

sale to the ticket seller's total. The amount is also accumulated in a grand total, and a record showing railroad, ticket seller, amount and sale number is printed on a strip of paper inside the register.

The register prints a receipt showing the same information as is printed on the paper in the machine. The ticket seller attaches this receipt to the stub of the ticket and deposits both in a pigeonhole reserved for the railroad for which the sale was made. The filing of ticket stubs in this manner saves the accountant's time in sorting when he collects them to make up his report. All tickets sold at this office are provided with stubs, but in an office where stubs were not provided a memorandum of the ticket number written on the register receipt would serve the same purpose in facilitating the work of the accountant.

The register system has been of material assistance in keeping the kind of records that are necessary in an office of this kind. The information required is compiled mechanically as the transactions are registered during the day. The adding wheels on the register tell at a glance how much money has been taken in to the credit of each railroad. The register has made it unnecessary to have a cashier. This saving alone has more than paid for the installation.

Ticket sellers now get away in less than ten minutes after closing time, having nothing to do but to count their cash and reserve enough for change for the next day's business. It is unnecessary for them to make out a daily seller's report, since the register shows the total amount of sales made by each seller for each road.

The register receipts which are issued by the register each time a sale is made, and which the clerk attaches to the ticket stubs, show the accountant at a glance any error that may be made, and, of course, it identifies the ticket seller who made the error. Each seller has his own cash drawer, which also simplifies the location of errors.

At the close of the day's business, the accountant takes the readings from the adding wheels on the cash register. These figures give him a balance to bring his books to and, having been added mechanically, they are necessarily correct. The grand total on the cash register shows the total amount of business at any hour during the day, facilitating the handling of bank deposits.

Under the old system the accountant was always a day behind the operations of the office. Under normal conditions now he is able to get his books balanced from one to two hours sooner than with the old way, because he does not have to check the ticket sellers' reports. When it is necessary to refund money for a ticket, the amount is registered in the regular way and the register receipt is pinned to

the returned ticket. The register does not add the amount of the refund to the sales, although it prints the amount on the recording tape and shows which ticket seller received the ticket and refunded the money. This gives the office a permanent record of all refund transactions; it interferes in no way with actual sales and enables the accountant to check accurately the money paid out.

Aside from its value as a time saver the register also prevents errors. The ticket seller must press his identification key first and then indicate the road for which the ticket sale is made before he can record any amount. In other words the register can be operated in only one way and that way necessitates making the record as the office wants it.

The *Railway Age* is indebted to the National Cash Register Company for furnishing information and photographs and to C. L. Tipton, ticket agent of the consolidated ticket office, Dayton, for information concerning the working of the device.

Short-Turn Overhead Trolley Conveyor System

THE SHORT-TURN overhead trolley conveyor system, illustrated in Fig. 1, is comparatively a new departure. Several successful installations have been made. The track consists of two parallel standard rolled channels, spaced $2\frac{1}{8}$ in. between flanges and held in place by clamps. The track is designed to carry loads with no intermediate supports except at the splices, corners and switch points, and is fabricated to meet the requirements of each condition. One special feature of this system is that spanning a long gap, as



Fig. 1—View of Overhead Trolley System With Universal Switches

from one building to another, can be done without intermediate supports by using a heavier section of channel.

The short-turn trolley system consists of the standard channels, 90-degree right switches, 90-degree left switches, 45-degree right switches, 45-degree left switches, and the universal switches. Each corner and switch connection is interchangeable so that at any time in the future a right corner can be removed and a double switch or universal switch bolted in the same place. The design and exceptional compactness of the short-turn universal switch gives much greater switching facilities and covers much greater space than any other switch.

All of the short-turn corners and switches have a track curvature of 18 in., practically turning the load at right angles. This is especially adaptable in foundries for serving

a row of brass furnaces or machines close to the wall without losing valuable space by long sweeping curves. It is also a good feature in freight houses and terminals. This short-turn system can be extended out of the warehouse and along the receiving platform so as to load goods directly into an open freight car or automobile truck. The system can also be readily wired should an electric hoist be desired in place of chain falls. The track is built and shipped and can be erected in single units, thus greatly reducing the cost of erection.

Special 2-wheel, 4-wheel, or 8-wheel trolleys are provided, the 4-wheel type being illustrated in Fig. 2. There are ball-bearing wheels *W* and guide rollers *R* which run between the toes of the channels, practically eliminating friction and making it difficult for the wheels to bind against the track when rounding the curves. Carbonized steel ball bearings

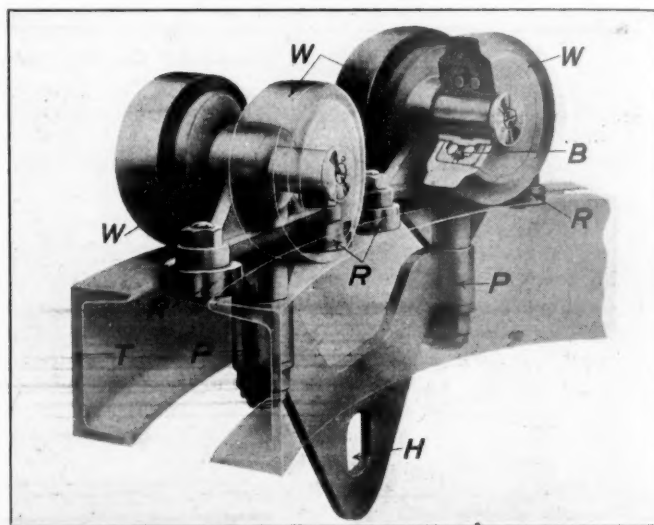


Fig. 2—Phantom View of Short Turn Trolley

are shown at *B*, pivots at *P* and the hoist connection at *H*. The trolley runs on the level top of the channel tracks and is designed to swing in 18 in. radius curves. The fact that the track is built from standard rolled channels or can be built from I-beam sections where long spans and greater strength are required, makes it easy to obtain from local stocks and easier to erect.

The operation of this system lightens the work and makes it much more easy and favorable for the men handling material, thereby decreasing labor turnover and increasing the efficiency of unskilled labor. The whole system, comprising the tracks, trolleys and switches, is so designed that it is impossible for the trolleys to run off the track or go in directions not predetermined and, therefore, causes no accidents or loss of time. This system is being manufactured and sold by the Whiting Corporation, Harvey, Ill.

THE PROPOSED TUNNEL between Staten Island and Long Island, New York harbor, was the subject, last week, of a conference in City Hall, New York, between Mayor Hylan and the presidents of the principal railroads. The mayor stated that the city desired to co-operate with the railroads. On the suggestion of Ira A. Place, vice-president of the New York Central, it was decided that each railroad company should appoint its chief engineer or some other engineering representative as a committee to confer with the chief engineer of the Board of Estimate and Apportionment, of the city, on the engineering features, and that the presidents of the roads constitute a standing committee, with whom the engineers are to confer.

General News Department

The Cleveland, Cincinnati, Chicago & St. Louis re-employed men laid off since last February at its shops at Bellefontaine, Ohio, on July 25. The Bellefontaine shops are now running at normal capacity.

The Minneapolis, St. Paul & Sault Ste. Marie will operate the line of the Wisconsin & Northern, which it recently purchased, as a part of its Wisconsin & Peninsular division, beginning August 1.

The New York, New Haven & Hartford announces that the Railway Clerks' Union has agreed to modification of the wage schedule regarding the payment of overtime and other compensatory rates, effective as of July 1, the new schedule to remain in force pending the decision of the United States Railroad Labor Board.

The Joint Congressional Commission on Agricultural Inquiry, Sydney Anderson, of Minnesota, chairman, announces the creation of a Division of Transportation, to be in charge of D. D. Conn, Minneapolis, Minn. This Congressional Commission is to investigate and report to Congress on the cause of the present condition of agriculture and kindred questions and the Division of Transportation is to make a thorough analysis of freight rate and car service problems as they affect prices of commodities.

The Long Island Railroad has received from the United States Railroad Labor Board a decision to the effect that it must negotiate concerning rules with System Federation No. 90, affiliated with the Railway Employees' Department of the American Federation of Labor. The officers of the System Federation are all employees of the Pennsylvania Railroad. The officers of the Long Island declared they would deal only with their own employees, and the union took the case to the Labor Board.

M. W. Painters—No Convention

The Executive Committee of the Maintenance of Way Master Painters' Association has decided to abandon the 1921 convention of that association which was to have been held at Buffalo, N. Y., on October 4. It is planned to hold the next convention in October, 1922.

The Reid New Foundland Company

The Legislature of New Foundland, after a debate lasting three days, has adopted a law under which the Reid New Foundland Company is to continue to operate its railroad, the Colony assuming the burden of losses up to \$1,500,000 yearly.

The "Pageant of Progress"

The advancement in railroad transportation is depicted in a number of exhibits at the Pageant of Progress at Chicago. The New York Central exhibits the locomotives De Witt Clinton and "999," as noted in the *Railway Age* of July 30. The Chicago & North Western is exhibiting the "Pioneer" which drew the first train out of Chicago in 1848. This road also shows its latest type of superheater locomotive. Other equipment shown includes a fishery service car for the stocking of interior lakes and streams and a mine rescue car with complete equipment and personnel.

Train Robbery Near Altoona

Westbound express train No. 23 of the Pennsylvania Railroad, the Manhattan Limited, was boarded by four robbers a short distance west of Gallitzin, Pa., on the morning of July 30, about 2 o'clock, and the seven clerks in the mail car were intimidated

with pistols, and one of them was wounded. The robbers threw off, or carried off, one or two bags, and escaped. When their job was done, two of them crawled into the locomotive cab and ordered the engineman to stop. It does not appear that the amount of booty obtained was large. It is thought that the robbers boarded the train when it was stopped, after passing through the tunnel, for the helping engine to be detached.

A Successful Campaign Against Loss and Damage

The Freight Service Committee of the St. Paul Association of Commerce is co-operating with the railroads in an effort to curtail freight loss and damage claims by carrying out an educational campaign under the slogan of "Perfect Package Week." The campaign has been a decided success and the tabulated figures for the week from June 6 to 11 have been brought to the attention of the American Railway Express Company, which, as a result, plans a national campaign. During the campaign all shipments that were received by the freight and express companies not properly packed and marked were rejected and sent back to the shipper with instructions to remedy the shortcoming. A strict account of such rejections was made and results tabulated. Out of a total of 26,041 freight shipments during the week there were 503 rejections or 1.92 per cent, and of 22,248 express shipments only 103 were rejected or 0.46 per cent. Many potential claims were eliminated from the count, however, by the traffic department's instructions, issued to all shippers just prior to the campaign.

Consolidation of Express Companies

The Canadian National Express Company, operating on the Government railways, and the Canadian Express Company, operating on the Grand Trunk, announce that, beginning on September 1, the operation of the two companies will be consolidated, and the combined business will be continued thereafter under the name of the Canadian National Express Company. John Pullen, heretofore president of the Canadian, will be president of the new company, and W. C. Muir, heretofore general manager of the Canadian National, will be vice-president and general manager. The new company will operate on 22,000 miles of railway and will have an extensive organization in Europe. The two express companies, operating as units, had a combined annual gross revenue of \$12,000,000 and did business at nearly 3,500 established agencies. With the unified service the supply of ventilated cars, refrigerators, horse stable cars and steamheated cars will be more readily available, and the vehicle service in the cities and larger towns, being consolidated, will respond more readily to calls from the public.

Study of Wood Seasoning

The Forest Products Laboratory, Madison, Wis., in co-operation with saw-mills and wood utilization plants throughout the country, is organizing an extensive field study of the air seasoning of wood. The purpose is to determine the piling practice which will result in the fastest drying rates consistent with the least depreciation of stock, the least amount of yard space required and the least handling costs. All the important commercial woods of the United States will receive consideration. The study of both hard and soft woods will be carried on concurrently. This investigation will furnish a comparison of the effects of such piling variables as the spacings of boards in layers, the height of pile foundations, and the directions of piling with relation to prevailing winds and yard alleys. It is expected that the study will determine whether lumber should be dried partly at the mill and partly at the plant of utilization or whether it should be dried completely at the mill. Data collected is expected also to show whether air seasoning or kiln drying is more economical.

Southern Pacific Reduces Rate on Apples

The Southern Pacific announces that on apple shipments from California points to eastern territory, with a minimum carload weight of 30,000 lbs., not subject to storage in transit, the rate is now \$1.50 per cwt., where the old rate was \$1.66½. With storage in transit privileges, shipments of like weight will cost \$1.60, where the old rate was \$1.75½. New rates on beans, canned goods, dried fruit, etc., from California to eastern territory will go into effect on August 22. The company will also place in effect on August 3 a new rate on imported shipments of flax, hemp, jute and other fibres, vegetable oil, nut oil, whale oil, seed oil and other oils, butter and dressed poultry, through Pacific Coast ports to points east of Chicago and north of the Ohio river.

Grain Rates Reduced in East

Traffic executives of eastern roads have announced a reduction of 5 cents per 100 lb. in export rates on wheat, corn and rye from Buffalo, Erie and Fairport to eastern export points. A reduction of 3 cents in export rates on barley and oats was agreed upon at the same time. The reduction in wheat, corn and rye rates amounts to about 25 per cent. Following are the present export rates from lake points to New York: wheat, 20.17 cents; corn and rye, 19.79 cents; oats, 19.63 cents; barley, 20.08 cents per hundred pounds. The roads will preserve the usual port differentials. An adjustment of rates from central to eastern territory was to be given further consideration at a conference to be held in Chicago this week. It is stated that the heavy reductions now made in grain export rates are not justified on the basis of the cost of transportation service, but in deference to demand from grain shippers for concessions in the rates. This year's export grain movement under existing rates exceeded the export movement of the past three years.

Safety Section—Operating Division, A. R. A.

A Safety Section, of the Operating Division, was established by the board of directors of the American Railway Association at a meeting in Chicago on July 27. The first annual meeting of the new section has been set for Monday, September 26, at Boston, Mass. This date and place were selected because of the fact that the Tenth Annual Congress of the National Safety Council will convene there on September 27. The temporary officers of the new Section are: E. M. Switzer (C. B. & Q.), chairman; John T. Broderick (B. & O.), first vice-chairman, and Isaiah Hale (A. T. & S. F.), second vice-chairman.

The temporary committee of direction consists of the foregoing and R. C. Richards (C. & N. W.); F. M. Metcalfe (N. P.); C. H. Blakemore (N. & W.); A. O. Ridgway (D. & R. G.); H. A. Adams (U. P.); M. A. Dow (N. Y. C.); H. M. Mayo (S. P.); and T. H. Carrow (Penn.). The other committees which have been formed, with the names of the chairmen, are as follows: On publicity and education, Isaiah Hale; on prevention of grade crossing accidents, J. T. Broderick; on nominations, L. F. Shedd; on arrangements, F. W. Mitchell (N. Y., N. H. & H., New Haven, Conn.).

Food Cost of Living Shows Slight Increase

From figures compiled in 10 cities, the Bureau of Labor Statistics reports slight increases in the retail price of food in all but one of the cities during the month ending July 15. In Detroit there was an increase of 7 per cent; in Peoria and Providence, 5 per cent; in Manchester and New Haven, 4 per cent; in Mobile and Savannah, 3 per cent; and in Atlanta and Richmond, 1 per cent. In Little Rock there was a decrease of one-tenth of 1 per cent.

For the year period, July 15, 1920, to July 15, 1921, there was a decrease of 30 per cent in Providence and Richmond; 31 per cent in Little Rock; 32 per cent in Savannah; 33 per cent in Atlanta and New Haven; 34 per cent in Manchester and Peoria; and 35 per cent in Detroit and Mobile.

As compared with July 15, 1913, the retail cost of food on July 15, 1921, showed an increase of 42 per cent in Little Rock; 45 per cent in Atlanta; 46 per cent in New Haven; 51 per cent in Manchester; 55 per cent in Detroit; 56 per cent in Richmond; and 57 per cent in Providence. Prices were not obtained by

the Bureau of Labor Statistics from Mobile, Peoria or Savannah in 1913, hence no comparison for the 8-year period can be given for these three cities.

Steel Passenger Cars for the Northern Pacific

Sixty-two passenger cars are being rebuilt by the Pullman Company for the Northern Pacific which will be used on trains Nos. 1 and 2 running between St. Paul and Seattle. A part of the order has been delivered to the railroad company and when completed will consist of 22 coaches, 12 diners, 11 dynamo baggage cars, 12 baggage cars and five mail and express cars. Three business cars are also being rebuilt in similar manner. All of the equipment used on these trains will then be steel. The cars are similar to the latest design of Pullman cars and are built of wood with steel underframes and ends and ⅝ inch steel sheathing. The trucks were reinforced to carry the added weight. The advantages ascribed to this type of construction over the all-steel construction are that they are less noisy, are warmer in winter and cooler in summer and more resilient in case of impact. The head end system of lighting with power supplied by a steam turbine driven generator, located in the baggage car, is used on these trains. New switch panels were added to the cars, but the lighting fixtures were not changed. Storage batteries will be used on each car, excepting coaches and straight baggage cars.

Urges Co-operation With American Railway Express

F. C. Fox, general manager of the eastern lines of the Atchison, Topeka & Santa Fe, has recently issued an interesting circular to officers and employees of the road, urging co-operation with the American Railway Express Company. Mr. Fox states, in part:

"Since September 1, 1920, the express business on this road has been conducted by the American Express Company under a contract materially different from any heretofore existing. The present agreement, providing, as it does, for the payment to the railway company of a certain proportion of the net express income, gives our line a greater interest than ever before in the efficient and economical operation of the express business. The maximum benefit from this arrangement can be obtained only through the heartiest co-operation between officials and employees of the express and railway companies on all matters of mutual interest, thus holding to our road, through superior service and facilities, the maximum volume of express traffic, and by personal interest in its safe, economic and prompt handling and movement, keeping the expense down to a minimum.

"With the thought clearly in the mind of every one of our people that the express business is not a side issue, but is an important part of the railway company's operations, and that the express company's interests are the railway company's interests, substantial progress will be made toward increasing the express company's net earnings, with consequent benefit to our own company. I therefore want to appeal to all of you to personally interest yourselves in the handling of the express, taking the same interest in this traffic that you would in the case of freight or passenger business to the end that our line will receive the greatest possible net return from the express business."

Illinois Central Continues Series of Public Statements

The results which the Illinois Central has secured from the series of monthly public statements which have been published during the past year in the newspapers along its lines, have been such as to justify the continuance of the policy, and the advertisements will continue to appear during the next twelve months. In the final statement of the current series, C. H. Markham, president of the company, said in part:

"We believe the railway problems of the United States require the best and most constructive thought of all the public—farmers, business men, professional men and railway men working in harmony. The railroads are ruled by public opinion. If public thought on railway questions is unprogressive, the railroads cannot make progress, which means that they will not be enabled to meet the constantly increasing demands of public service.

"The public is not entirely to blame for such unsatisfactory railway conditions as have obtained in the past. We believe the reticence of railway men themselves, in failing to keep the public

well informed, has been one of the causes of the growth of restrictive legislation, of unprogressive regulation and of an anti-railway spirit, which have worked a hardship upon railway development, and consequently upon the public itself.

"That our discussions have contributed to a better understanding of railway problems on the part of the public served by the Illinois Central System is evidenced to us in many ways. Not only have our patrons helped us in their hearty support of many problems which we have presented to them, giving us their hearty support and co-operation in carrying out our programs for better service, but the better mutual understanding which has been awakened—a better understanding on our part of our patrons' problems and a better understanding on their part of ours—has been reflected in generally improved service. Our discussions have also been a means of perfecting within our organization that spirit of loyalty and service which always has characterized the Illinois Central System."

U. S. Chamber of Commerce

Names Transportation Committee

Appointment of two committees to deal with transportation is announced by the Chamber of Commerce of the United States. A departmental committee for the department of transportation and communication will consider problems relating to the general field of transportation and communication, and there is a special railroad committee.

The chairman of the departmental committee is Howard Elliott, chairman of the board of the Northern Pacific Railroad, and member of the chamber's board of directors. Other members are: Vice-chairman—Lewis B. Stillwell, Lakewood, N. J., a consulting engineer and also a chamber director; Utilities—Edwin O. Edgerton, San Francisco, ex-chairman of the California Railroad Commission; Railroads—George A. Post, New York, president of the Hudson River Bridge Corporation, and W. W. Salmon, Rochester, president of the General Railway Signal Company; Marine—H. H. Raymond, New York City, president of the Clyde Line; J. M. Whitsitt, Charleston, S. C., president The Carolina Company; Highways—A. J. Brosseau, New York, president of the International Motor Company; Electric Railways—Philip H. Gadsden, Philadelphia, vice-president United Gas Improvement Company; Waterways—Douglas Fiske, Minneapolis, Lawyer; Port Terminals—B. F. Cresson, Jr., New York City, Chief Engineer, Port of New York; Communications—John J. Carty, New York, vice-president American Telephone and Telegraph Company; Postal—Lucius Teter, Chicago, president Chicago Trust Company.

George A. Post is chairman of the special railroad committee and the other members are: Railroad Executive, T. C. Powell, New York, vice-president Erie R. R. Company; Banker—Harry A. Wheeler, Chicago, vice-president Union Trust Company; Merchant—George W. Simmons, St. Louis, president Simmons Hardware Company; Railway Equipment—Wilmer W. Salmon, Rochester, president General Railway Signal Company; Railroad Administration—A. W. Smith, Washington, General Counsel U. S. Railroad Administration; Transportation Economist, Emory R. Johnson, Philadelphia, Dean, Wharton School, University of Pennsylvania; Transportation Engineer—Charles E. Lee, East Orange; Lawyer—F. C. Dillard, Sherman, Texas; Rail and Water Transport—Walter S. Dickey, Kansas City, president Kansas City and Missouri River Navigation Company.

The chamber's transportation department was organized recently with J. Rowland Bibbins as its manager. The department will deal with transportation in all its forms. In its work it will take up the following:

1. Railroads—Further study of financial resources, consolidation and efficiency, with the object of making them self-sustaining, with adequate service to the public.

2. Marine Transportation, both Lake and Ocean—The problems of the American merchant marine and proper relation to foreign competition.

3. Terminals and Ports—Intensive study of operating unification to secure a more efficient trans-shipment machine.

4. Electric Railways—The fare situation and ways and means for securing a self-supporting agency of essential public service.

5. Highways—Economic analysis of the problem of highway transport in relation to other agencies, and the proper public subsidy therefor.

6. Waterways—Economic analysis showing the true position of waterways as a natural resource, as yet largely undeveloped.

7. Communications—Encouragement of adequate development for needs of business, especially in connection with foreign countries.

8. Postal and Express—The problem of transportation of the mails upon an economic basis, as affects both shippers and carriers.

9. Air Transport—The codification of laws and regulations to promote safety and encourage aeronautical development with the maximum rapidity.

Conferences with "Big Four" Brotherhoods

A few weeks ago the heads of the train service brotherhoods joined in a communication to Chairman Cuyler of the Association of Railway Executives making certain demands upon the railways; in substance that the railways should restore the wages of train service employees to the rates which they were receiving prior to July 1; that they should agree to seek no further reductions in wages; and should desist from asking for abolition of time and a half for overtime in freight train service.

The matter was referred to the railways of the various territorial groups. The Southeastern lines have adopted resolutions indicating that they will not comply with the demands, but will appoint a committee of railway officers to meet with the brotherhood officers and discuss matters of mutual concern if the brotherhood leaders desire.

The executives of the Western lines met in Chicago on Tuesday and took similar action.

The Eastern lines, speaking through a committee of four, at a conference in New York on Wednesday of this week, told the labor leaders that the whole question would be referred to the whole Eastern Presidents' Conference, which it is expected will take action next week. After Wednesday's conference, E. E. Loomis, president of the Lehigh Valley, issued a statement on behalf of the railroads, saying:

"The union chiefs in seeking the meeting said it was their desire to ascertain: (1) If the operating officials of the railroads will restore the wage rates in effect on June 30, 1921; (2) if all demands for further decreases will be withdrawn; (3) if all demands for the elimination of time and one-half for overtime and radical schedule revision will be withdrawn and not again pressed for a stated period.

"The railroad executives pointed out that to grant the request of the brotherhood heads would mean an increase in wages of approximately twelve and one-half per cent at a time when all other wages are coming down; would assume that no further decreases are or will be warranted by reductions in the cost of living, and would take the question of time and one-half for overtime out of the hands of the Labor Board, where it is now under discussion, and violate every agreement the men now have with their respective roads, each of which has a terminating or revision clause.

"After hearing the arguments presented by the labor men, the railroad officials said they would make a report to the Eastern Presidents' Conference, which will take final action."

Representing the companies, besides Mr. Loomis, were W. W. Atterbury, vice-president of the Pennsylvania System; E. N. Brown, president of the Pere Marquette, and Percy R. Todd, president of the Bangor & Aroostook.

For the employees there were Warren S. Stone, grand chief of the Brotherhood of Locomotive Engineers; W. S. Carter, president of the Brotherhood of Locomotive Firemen and Engineers, L. E. Sheppard, president of the Order of Railroad Conductors; W. G. Lee, president of the Brotherhood of Railway Trainmen and T. C. Cashen, president of the Switchmen's Union of North America.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

AIR BRAKE ASSOCIATION.—F. M. Nellis, 163 Broadway, New York City. Exhibit by Air Brake Appliance Association.

AIR BRAKE APPLIANCE ASSOCIATION.—Fred W. Venton, 836 So. Michigan Ave., Chicago. Meeting with Air Brake Association.

AMERICAN ASSOCIATION OF DEMURRAGE OFFICERS.—F. A. Pontious, Supervisor of Demurrage and Storage, C. & N. W. Ry., Chicago.

AMERICAN ASSOCIATION OF DINING CAR SUPERINTENDENTS.—S. W. Derr, Philadelphia & Reading, Philadelphia, Pa.

AMERICAN ASSOCIATION OF ENGINEERS.—C. E. Drayer, 29 S. La Salle St., E. I. R. R., 332 South Michigan Ave., Chicago.

- AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.**—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York. Annual meeting, November 21 and 22, Carolina Hotel, Pinehurst, N. C.
- AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.**—J. Rothschild, Room 400, Union Station, St. Louis, Mo.
- AMERICAN ELECTRIC RAILWAY ASSOCIATION.**—E. B. Burritt, 8 W. 40th St., New York. Next convention, October 3, Atlantic City. Exhibits this year will be omitted.
- AMERICAN RAILROAD MASTER TINNERS', COPPERSMITHS' AND PIPE FITTERS' ASSOCIATION.**—C. Borchardt, 202 North Hamlin Ave., Chicago, Ill. Next convention September 12-14, Hotel Sherman, Chicago.
- AMERICAN RAILWAY ASSOCIATION.**—J. E. Fairbanks, General Secretary, 75 Church St., New York, N. Y. Next regular meeting, November 16, 1921.
- Division I—Operating.
Freight Station Section (including former activities of American Association of Freight Agents). R. O. Wells, Freight Agent, Illinois Central Railroad, Chicago, Ill.
Medical and Surgical Section. J. C. Caviston, 75 Church Street, New York.
Protective Section (including former activities of the American Railway Chief Special Agents and Chiefs of Police Association), J. C. Caviston, 75 Church St., New York, N. Y.
Telegraph and Telephone Section (including former activities of the Association of Railway Telegraph Superintendents). W. A. Fairbanks, 75 Church St., New York, N. Y.
Safety Section. J. C. Caviston, 75 Church St., New York. First Annual Meeting, Boston, Mass., September 26.
- Division II—Transportation (including former activities of the Association of Transportation and Car Accounting Officers). G. W. Covert, 431 South Dearborn St., Chicago, Ill.
Division III—Traffic. J. Gottschalk, 143 Liberty St., New York.
Division IV—Engineering. E. H. Fritch, 431 South Dearborn St., Chicago, Ill.
Construction and Maintenance Section. E. H. Fritch.
Electrical Section. E. H. Fritch.
Signal Section (including former activities of the Railway Signal Association). H. S. Balliet, 75 Church St., New York, N. Y.
Division V—Mechanical (including former activities of the Master Car Builders' Association and the American Railway Master Mechanics' Association). V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Meeting postponed indefinitely.
Equipment Painting Section (including former activities of the Master Car and Locomotive Painters' Association). V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill.
Division VI—Purchases and Stores (including former activities of the Railway Storekeepers' Association). J. P. Murphy, General Storekeeper, New York Central, Collinwood, Ohio.
Division VII—Freight Claims (including former activities of the Freight Claim Association). Lewis Pilcher, 431 South Dearborn St., Chicago, Ill.
- AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.**—C. A. Lichty, C. & N. W. Ry., 319 Waller Ave., Austin Station, Chicago. Next convention, October 18-20, 1921, New York City. Exhibit by Bridge and Building Supply Men's Association.
- AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.**—J. F. Jackson, Central of Georgia, Savannah, Ga. Next meeting, November, 1921, Chicago.
- AMERICAN RAILWAY ENGINEERING ASSOCIATION.**—(Works in co-operation with the American Railway Association, Division IV.) E. H. Fritch, 431 South Dearborn St., Chicago. Next convention, March 14-16, Chicago. Exhibit by National Railway Appliances Association, March 13-16.
- AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.**—(See American Railway Association, Division 5.)
- AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.**—R. D. Fletcher, 1145 East Marquette Road, Chicago. Next convention, which was to have been held August 9-11, Hotel Sherman, Chicago, has been postponed. Exhibit by Supply Association of the American Railway Tool Foremen's Association.
- AMERICAN SHORT LINE RAILROAD ASSOCIATION.**—T. F. Whittelsey, Union Trust Bldg., Washington, D. C.
- AMERICAN SOCIETY FOR STEEL TREATING.**—W. H. Eiseman, 4600 Prospect Ave., Cleveland, Ohio. Next convention, September 19-24, Indianapolis, Ind.
- AMERICAN SOCIETY FOR TESTING MATERIALS.**—C. L. Warwick, University of Pennsylvania, Philadelphia, Pa.
- AMERICAN SOCIETY OF CIVIL ENGINEERS.**—E. M. Chandler (acting secretary), 33 W. 39th St., New York. Regular meetings, 1st and 3d Wednesdays in month, except July and August, 33 W. 39th St., New York.
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS.**—Calvin W. Rice, 29 W. 39th St., New York.
- AMERICAN TRAIN DISPATCHERS' ASSOCIATION.**—C. L. Darling, Northern Pacific Ry., Spokane, Wash.
- AMERICAN WOOD PRESERVERS' ASSOCIATION.**—George M. Hunt, Chemist, Forest Products Laboratory, Madison, Wis.
- ASSOCIATION OF RAILWAY CLAIM AGENTS.**—H. D. Morris, Northern Pacific R. R., St. Paul, Minn. Next annual meeting, May 19, 1922, Montreal.
- ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.**—Jos. A. Andreucetti, C. & N. W., Room 411, C. & N. W. Sta., Chicago. Next convention, October 18-21, Hotel La Salle, Chicago. Exhibit by Railway Electrical Supply Manufacturers' Association.
- ASSOCIATION OF RAILWAY EXECUTIVES.**—Thomas De Witt Cuyler (chairman), 61 Broadway, New York, N. Y.
- ASSOCIATION OF RAILWAY SUPPLY MEN.**—A. W. Clokey, 1658 McCormick Bldg., Chicago. Meeting with International Railway General Foremen's Association.
- ASSOCIATION OF RAILWAY TELEGRAPH SUPERINTENDENTS.**—(See American Railway Association, Division 1.)
- ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS.**—(See American Railway Association, Division 2.)
- BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.**—A. J. Filkins, Paul Dickinson Company, Chicago. Meeting with convention of American Railway Bridge and Building Association.
- CANADIAN RAILWAY CLUB.**—W. A. Booth, 131 Charron St., Montreal, Que.
- CAR FOREMEN'S ASSOCIATION OF CHICAGO.**—Aaron Kline, 626 North Pine Ave., Chicago. Regular meetings, 2d Monday in month, except June, July and August, New Morris Hotel, Chicago.
- CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.**—Thomas B. Koneke, St. Louis, Mo. Meetings, first Tuesday in month at the American Hotel Annex, St. Louis.
- CENTRAL RAILWAY CLUB.**—Harry D. Vought, 95 Liberty St., New York. Regular meetings, 2d Thursday in November and 2d Friday in January, March, May and September, Hotel Statler, Buffalo, N. Y.
- CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S ASSOCIATION.**—W. P. Elliott, Terminal Railroad Association of St. Louis, East St. Louis, Ill. Convention this year has been postponed.
- CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S SUPPLY MEN'S ASSOCIATION.**—D. B. Wright, 34th St. and Artesian Ave., Chicago, Ill. Meeting with Chief Interchange Car Inspectors' and Car Foremen's Association.
- CINCINNATI RAILWAY CLUB.**—W. C. Cooder, Union Central Bldg., Cincinnati, Ohio.
- EASTERN RAILROAD ASSOCIATION.**—E. N. Bessling, 614 F St., N. W., Washington, D. C.
- FREIGHT CLAIM ASSOCIATION.**—(See American Railway Association, Division 7.)
- GENERAL SUPERINTENDENTS' ASSOCIATION OF CHICAGO.**—A. M. Hunter, 321 Grand Central Sta., Chicago. Regular meetings, Wednesday preceding 3d Friday in month, Room 856, Insurance Exchange Bldg., Chicago.
- INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.**—W. J. Mayer, Michigan Central R. R., Detroit, Mich. Next convention, which was to have been held August 16-18, 1921, Hotel Sherman, Chicago, has been postponed. Exhibit by International Railroad Master Blacksmiths' Supply Men's Association.
- INTERNATIONAL RAILROAD MASTER BLACKSMITHS' SUPPLY MEN'S ASSOCIATION.**—George P. White, 747 Railway Exchange, Chicago. Meeting with International Railroad Master Blacksmiths' Association.
- INTERNATIONAL RAILWAY FUEL ASSOCIATION.**—J. G. Crawford, 702 E. 51st St., Chicago.
- INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.**—Wm. Hall, 1061 W. Wabasha Ave., Winona, Minn. Next convention, which was to have been held September 12-15, Hotel Sherman, Chicago, has been postponed.
- MAINTENANCE OF WAY MASTER PAINTERS' ASSOCIATION.**—E. E. Martin, Union Pacific R. R., Room No. 19, Union Pacific Bldg., Kansas City, Mo. Next convention, which was to have been held October 4-6, 1921, at Buffalo, N. Y., has been canceled.
- MASTER BOILER MAKERS' ASSOCIATION.**—Harry D. Vought, 95 Liberty St., New York.
- MASTER CAR AND LOCOMOTIVE PAINTERS' ASSOCIATION.**—See A. R. A., Division 5.)
- MASTER CAR BUILDERS' ASSOCIATION.**—(See A. R. A., Division 5.)
- NATIONAL ASSOCIATION OF RAILWAY TIE PRODUCERS.**—E. E. Pershall, T. J. Moss Tie Company, 720 Security Bldg., St. Louis, Mo.
- NATIONAL ASSOCIATION OF RAILWAY AND UTILITIES COMMISSIONERS.**—James B. Walker, 49 Lafayette St., New York. Next convention, October 11, Atlanta, Ga.
- NATIONAL FOREIGN TRADE COUNCIL.**—O. K. Davis, 1 Hanover Square, New York.
- NATIONAL RAILWAY APPLIANCES ASSOCIATION.**—C. W. Kelly, Peoples' Gas Bldg., Chicago. Annual exhibition, March 13-16, Chicago, at convention of American Railway Engineering Association.
- NEW ENGLAND RAILROAD CLUB.**—W. E. Cade, Jr., Boston, Mass. Regular meetings, 2d Tuesday in month, excepting June, July, August and September.
- NEW YORK RAILROAD CLUB.**—Harry D. Vought, 95 Liberty St., New York. Regular meeting, 3d Friday in month, except June, July and August, at 29 W. 39th St., New York.
- PACIFIC RAILWAY CLUB.**—W. S. Wollner, 64 Pine St., San Francisco, Cal. Regular meeting, 2d Thursday in month, alternately in San Francisco and Oakland.
- RAILWAY ACCOUNTING OFFICERS' ASSOCIATION.**—E. R. Woodson, 1116 Woodward Building, Washington, D. C.
- RAILWAY BUSINESS ASSOCIATION.**—Frank W. Noxon, 600 Liberty Bldg., Broad and Chestnut Sts., Philadelphia, Pa.
- RAILWAY CLUB OF PITTSBURGH.**—J. D. Conway, 515 Grandview Ave., Pittsburgh, Pa. Regular meetings, 4th Thursday in month, except June, July and August, Americus Club House, Pittsburgh, Pa.
- RAILWAY DEVELOPMENT ASSOCIATION.**—(See Am. Ry. Development Assn.)
- RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.**—J. Scribner, General Electric Co., Chicago. Annual meeting with Association of Railway Electrical Engineers.
- RAILWAY EQUIPMENT MANUFACTURERS' ASSOCIATION.**—R. J. Himmelfright, 17 East 42nd St., New York. Meeting with Traveling Engineers' Association.
- RAILWAY FIRE PROTECTION ASSOCIATION.**—R. R. Hackett, Baltimore & Ohio R. R., Baltimore, Md. Annual meeting, October 18-20, Hotel Sherman, Chicago.
- RAILWAY REAL ESTATE ASSOCIATION.**—R. H. Morrison, C. & O. Ry., Richmond, Va.
- RAILWAY SIGNAL ASSOCIATION.**—(See A. R. A., Division 4, Signal Section.)
- RAILWAY STOREKEEPERS' ASSOCIATION.**—(See A. R. A., Division 6.)
- RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.**—J. D. Conway, 1841 Oliver Bldg., Pittsburgh, Pa.
- RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.**—G. A. Nelson, 30 Church St., New York.
- ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.**—P. J. McAndrews, C. & N. W. Ry., Sterling, Ill. Next annual convention, September 20-22, 1921, Auditorium Hotel, Chicago. Exhibit by Track Supply Association.
- ST. LOUIS RAILWAY CLUB.**—B. W. Frauenthal, Union Station, St. Louis, Mo. Regular meeting, 2d Friday in month, except June, July and August.
- SIGNAL APPLIANCE ASSOCIATION.**—F. W. Edmunds, Sunbeam Electric Manufacturing Company, New York City. Meeting with American Railway Association, Signal Section.
- SOCIETY OF RAILWAY FINANCIAL OFFICERS.**—L. W. Cox, Commercial Trust Bldg., Philadelphia, Pa.
- SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.**—A. J. Merrill, P. O. Box 1205, Atlanta, Ga. Regular meetings, 3d Thursday in January, March, May, July, September and November, Piedmont Hotel, Atlanta.
- SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.**—E. W. Sandwich, Western Ry. of Ala., Atlanta, Ga.
- SUPPLY ASSOCIATION OF AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.**—C. N. Thulin, 935 Peoples' Gas Bldg., Chicago.
- TRACK SUPPLY ASSOCIATION.**—W. C. Kidd, Ramapo Iron Works, Hilburn, N. Y. Meets with Roadmasters' and Maintenance of Way Association.
- TRAVELING ENGINEERS' ASSOCIATION.**—W. O. Thompson, 117 East 98th St., Cleveland, Ohio. Business meeting, September 6, Hotel Sherman, Chicago. Exhibit this year by Railway Equipment Manufacturers' Association has been canceled.
- WESTERN RAILWAY CLUB.**—Bruce V. Crandall, 14 E. Jackson Boulevard, Chicago. Meeting third Monday each month except June, July and August.

Traffic News

The Department of Agriculture announces that 598,524 carload shipments of fruits and vegetables have been made this season up to July 2 or nearly twice as great as during the corresponding period of last year when 315,597 such shipments were made.

The Detroit, Toledo & Ironton, owned by the Ford interests, has filed with the Interstate Commerce Commission tariffs providing for a reduction in the rates on coal, coke, grain and grain products amounting to about 20 per cent, similar to the intrastate tariffs already filed with the state authorities.

The Chicago, Rock Island & Pacific to date has moved 9,000 carloads of cantaloupes from California as compared with 7,000 carloads for the corresponding period in 1920. The movement, which schedules 153-hour shipments from Branley in the Imperial Valley to Chicago, goes by way of the Southern Pacific, El Paso & Southwestern and the Rock Island. The season's crops started to the market in the latter part of May.

The Detroit, Toledo, & Ironton has been operating with its commercial agents and freight solicitors working from the central office since July 1. When the road came under the Ford management, about 30 of these officers were stationed about the country. All of these men have been called in and attached to the traffic department headquarters, with a view to giving service to the shipper and to work on special assignments.

More citrus fruit, with the exception of lemons, has been shipped from California and Florida so far this season than during the corresponding season last year, according to official reports received by the Department of Agriculture. Of oranges, 40,700 carloads were shipped in 1920, as compared with 48,732 in 1921; grape fruit, 9,261 cars in 1920, and 10,490 in 1921; lemons, 6,600 cars from California in 1920, as compared with 5,516 in 1921.

The Governor and other officers of the state of Alabama propose to resist with every available resource the execution in Alabama of the recent order of the Interstate Commerce Commission directing the Southern, the Alabama Great Southern and the Mobile & Ohio to increase certain freight rates between points within the state of Alabama to a parity with rates in effect between Meridian, Miss., and points in Alabama.

Southern roads appearing before Examiner John H. McQuilgan at St. Louis, Mo., asked for a revision of certain rates between St. Louis and New Orleans, La., declaring that the fixing of rates with river traffic as a basis was unfair because freight competition on the Mississippi river actually does not exist. The attention of the examiner was called to the serious handicap of roads which parallel the river as compared to those which run from the river to interior points.

At a state marketing conference held at St. Paul, Minn., on July 21, railroad officers told state officials and live stock men that it was impossible for the railroads to undertake to regulate the flow of live stock to market by changing train schedules. They suggested a campaign of education among shippers in order to get them to regulate the movement of stock themselves and declared that the railroads are compelled to handle all classes of merchandise on their lines and that it would be unfair to make special schedules favoring live stock men.

The Public Service Commission of New York has issued an order, to go into effect on August 1, requiring a general and sweeping reduction by the principal railroads of the state in the freight rates on peaches, in carloads, said to be equal to the increase which was made in these rates when the Interstate Commerce Commission authorized general advances last year. Shippers of peaches have declared that their business was in danger of destruction because of the high rates, and this claim appears to have had weight with the commission.

Commission and Court News

Interstate Commerce Commission

The commission has reopened the Indiana intrastate rate case, insofar as it applies to rates on water in carloads, for such further hearing as the commission may hereafter direct.

The commission has reopened the Nebraska intrastate rate case, insofar as it applies to rates on sand and gravel in carloads, for such further hearing as the commission may direct.

The commission has suspended, from July 30 until November 27, the proposed advances in rates on woolen yarn from Skowhegan, Me., to Boston, North Andover and Lawrence, Mass., and other points in New England and Trunk Line territory.

The commission has denied the application of R. H. Countiss, agent, for authority to establish rates on dried beans, canned goods, canned salmon, dried fruits and vegetables, condensed milk, rice and other commodities from Pacific coast points to certain points in eastern territory without observing the long-and-short-haul provision of the law.

Commissioner Charles C. McChord is chairman of a joint committee composed of three members of the Interstate Commerce Commission and members of the United States Shipping Board to cooperate in overlapping duties of the board and the commission due to amendments to the Interstate Commerce Act and the passage of the Merchant Marine Act. The two statutes are to be administered with the least possible crossing of paths.

The joint committee is at present considering the question of a uniform through export bill of lading. Members of the committee, in addition to Mr. McChord, are commissioners Hall and Esch, representing the I. C. C., and commissioners Edward C. Plummer, Frederick I. Thompson, and Meyer Lissner, representing the shipping board.

Court News

Connecting Carrier Cannot Recover from Consignor Freight for Shipment Misrouted by Initial Carrier

A consignor and receiving carrier entered into a contract to carry a car of perishable fruit to Syracuse, N. Y., but before the goods started the contract was rescinded and a new bill of lading issued with destination Nashville, Tenn. By mistake the receiving carrier acted on the abrogated contract, sending the fruit to Syracuse. The federal district court for the Southern District of Georgia holds that the connecting carrier which carried the fruit to Syracuse could not recover freight for that service. The receiving carrier having misrouted the shipment, "it was without authority from the shipper to contract with a connecting carrier in aid of a wrongful diversion, and neither it nor its connecting carrier can lawfully charge freight to the shipper for such wrongful diversion. The connecting carrier's remedy for its freight charges is against the initial carrier, and not against the shipper, with whom it had no privity of character."—*D. L. & W. Co. v. Johnson-Brown Co.*, 270 Fed. 679.

Bill of Lading, Notify Consignee, Does Not Require Notice of Right to Inspect

The Circuit Court of Appeals, Second Circuit, holds that a bill of lading for a carload shipment to the order of the consignor, notify consignee, does not require the carrier in its notice to advise the consignee of a right of inspection given by the bill of lading, in addition to stating the fact of arrival of the goods. The car having been destroyed by fire on a siding at destination, the point contested was whether under the bill of lading the railroad was liable as insurer or as warehouseman, and that depended on whether notice of arrival was given to the consignee more than 48 hours before the fire. Judgment for the plaintiff shipper was reversed.—*Director General v. Lewis E. Sands Co.*, 271 Fed. 85.

Foreign Railway News

Poland Gets Rolling Stock from Soviet Russia

In compliance with the treaty of Riga, the Soviet government has delivered to Poland 155 locomotives, 435 passenger cars and 8,859 freight cars, according to Commerce Reports. The freight cars are said to be in fairly good condition.

Railway Accidents in France

LONDON.

The following table gives some statistics of accidents in France during the past few years. The table has been compiled by the Temps (Paris) in order to reassure the nervous public of France:

Year	Total number of accidents	Killed	Injured
1912.....	209	50	754
1913.....	142	60	413
1919.....	107	271	1,064
1920.....	142	122	1,184
1921 (up to July 15).....	43	54	238

French Train Robbers Apprehended

The bandits who robbed a Paris-Marseilles express train on the night of July 24 (*Railway Age*, July 30, page 223) were apprehended in a Paris café on July 30, according to a cable dispatch to the New York Times. Two of the robbers were killed in an attempt to escape their captors and one policeman was mortally wounded in the mêlée. The third bandit who had been captured several hours before had informed the police where the others were to be found. This robbery in which one passenger was killed and two wounded was one of a series of spectacular train robberies which have occurred in France recently.

French Railway Places Order with Westinghouse

An order for electrical equipment amounting to \$1,200,000 has been received by the Westinghouse Electric International Company from the Midi Railway of France. The order includes transformers, synchronous condensers, lightning arresters and other substation equipment. The Midi Railway operates an extensive system, starting from Bordeaux, running through Toulouse to Certe, with many branches. The section on which the Westinghouse equipment will be used extends from Pau to Toulouse in the Pyrenees mountains, near the Spanish border. The line passes through Tarbes and St. Gaudens, and has a total length of over 100 miles.

Mexican Northwestern to Reopen Line to Chihuahua

The Mexican Northwestern expects to have through connections established over its line from Ciudad Juarez to Chihuahua City by September 1, 1921, according to Vice Consul Harper at Ciudad Juarez. This will put into operation a portion of their lines between Madera and Temosachic that has not been operated since 1916. The establishing of another connection between Juarez and Chihuahua will open a new trade territory for both cities since the re-establishment of traffic in the Madera territory will have its influence on mining, agricultural, and other enterprises. Some of the mining companies are already planning to open up properties that have not been operated for the past five or six years. One mining corporation has recently completed a new power plant in Madera which is to furnish power for its mines located some 25 miles from that city.

Merger Adds to Power

of German Locomotive Builders

Another great merger in the German metal trades has just taken place, according to the Times (London) Trade Supplement. The Rheinische Metallwaren-und Maschinenfabrik at Duesseldorf has combined with the Allgemeine Elektrizitaets Gesellschaft, the Friedrich Krupp Allgemeine Gesellschaft and the Cologne iron trading firm of Otto Wolff, and has increased its share capital by 95,000,000 marks to 120,000,000 marks (\$30,000,000 par).

By this combination the "Rheinmetall" concern will rank among the leading locomotive plants of the world, its output capacity being 350 engines, and that of the whole group about 1,200 engines. In connection with the Allgemeine Elektrizitaets Gesellschaft, increased attention will be devoted to the manufacture of electrical supplies. Krupp's and Wolff will chiefly supply raw and semi-finished products and place their extensive foreign sales organization at the disposal of the concern. It has already been decided to make a further increase in capital of 50,000,000 marks (\$12,500,000 at par) for reconstruction of plant.

It is said also that there is a movement on foot to establish a syndicate of rail manufacturers to support German interests against foreign competition. A concern at Chemnitz has increased its capital by some \$7,500,000 (par) and will greatly increase its output of locomotives. This concern, it is said, recently secured an order for 500 engines from Japan.

English Road Facilitates Examinations of Employees

The Lancashire & Yorkshire Railway has issued a book of questions and answers relative to the rules and regulations governing the operating department which is designed to facilitate the work of the examiners and to insure a careful examination of employees seeking appointment or promotion. The book is divided into sections containing questions and answers concerning the following topics:

1. Manual Block System—Double Tracked Lines.
2. Electric Train Tablet System—Single Tracked Lines.
3. Regulations Affecting Signalmen.
4. Regulations Affecting Guards (Trainmen).
5. A Double-Tracked Line Operated as Single Track Because of Obstruction.
6. Safe Operation of Trains in General.
7. Fog Signaling.

Purchase of Railway Supplies Exclusively

in Britain Causes Dissent in India

The most important step taken by the government of India to relieve the acute congestion on the government railways has been the placing of a \$35,000,000 bond issue in England, according to a Calcutta correspondent of the Brooklyn Eagle. The proceeds of this issue, says the dispatch, are to be spent entirely for British goods and this policy is said to have evoked the following letter to the government from the Indian Merchants' Chamber of Bombay:

"We would like to know how long the tragedy of purchasing railway materials for India only in the United Kingdom is to go on. Even English corporations and the governments of self-governing dominions have placed orders in foreign markets on advantageous terms, whereas India alone is fleeced in the interests of English manufacturers. My committee does not see the advantage to this country of borrowing at heavy rates in the United Kingdom, putting the burden of interest and capital charges on India and feeding English manufacturers with orders out of such money. My committee suggests that the materials for India must be purchased in India by competitive tenders, open to every nation of the world, and the lowest price tenders alone should be accepted. According to my committee's belief, a saving of at least 30 to 40 per cent would be effected by adopting this procedure."

Road Transport and the English Railways

LONDON.

Road transport in England since the war has grown by leaps and bounds, due primarily to the large number of motor trucks which were made available for commercial purposes by the cessation of hostilities. It has cut into the earnings of the railways to such an extent that now, on the eve of the railways being returned to their owners, the railway companies are seeking to have included in the railway bill, now before Parliament, provisions whereby they will be enabled to transport freight and passengers by road as well as by rail. Arthur Watson, joint manager of the London & North Western and the Lancashire & Yorkshire, stated the railways' case quite clearly in an interview appearing in the Evening Standard (London) recently.

"Obviously a railway bill which does not deal with the ques-

tion of road transport for railways is not complete," he declared. "With the advance of mechanical science during the war, road transport agencies came into existence; they diverted the traffic—the best paying traffic—from the railways, and we feel that we ought to be in a position, so far as we can, to deal with that traffic which has been so diverted.

"As things stand at present we can only transport by road for collection and delivery purposes. Now we are seeking powers to carry by road, even though the goods do not travel on the railway at all.

"We are also seeking powers to carry passengers by road, but it is goods we have in our minds chiefly.

"What the railway companies want to make clear is that what they are seeking is not a monopoly of road transport. Their idea would be in practice to set up conferences, as is done in the railway world, with the other road transport haulers and get the rates to be charged by road agreed among them."

Germans Get Preferential Tariff Rate By Shipping from Belgium

LONDON.

The 20 per cent rebate on customs duties accorded to Belgium by Brazil seems to have given an opening to German exporters, who have quickly seized the opportunity by negotiating with Belgian merchants for the shipment of the goods to Brazil in order to enjoy the preference. According to the Rio representative of the Federation of British Industries, the Brazilian Minister at Brussels has cabled to the government to the effect that German manufacturers have been shipping goods from Antwerp to Brazil. Both Germany and Belgium are dealing largely with Brazil in iron goods, rails, locomotives, and so forth. The Brazilian government has instructed its consuls in Belgian ports that all goods exported to Brazil must be accompanied by a declaration from the burgomaster of the town of manufacture declaring the origin of the goods.

English Road Uses Attractive Publication to Build Up Suburban Traffic

The Metropolitan Railway, which has extensive suburban lines in and around London, has issued an attractive booklet of some 90 pages descriptive of the various suburban communities served by its lines. The book, which is called "Metro-land," is printed on gloss paper of excellent quality and is profusely illustrated with maps and photographs, a number of which are in color. Each of the communities served by the company's lines is dealt with separately, giving interesting bits of history of the towns and villages, the places of interest in them, the number of their inhabitants, the physical characteristics of the communities, the principal industries and the distance from the company's Baker street terminus in London.

One section of the book is labeled "Country Homes in Metro-land" and in it the various real estate developments in progress along the company's lines are described. Here the prospective home owner can find the cost of land, some idea of building costs and suggestions as to the monthly payments necessary to acquire residential property. The company's service even extends further than that. It will furnish definite information as to plans, cost and monthly payments to those who apply on the following coupon, which can be clipped, filled out and mailed:

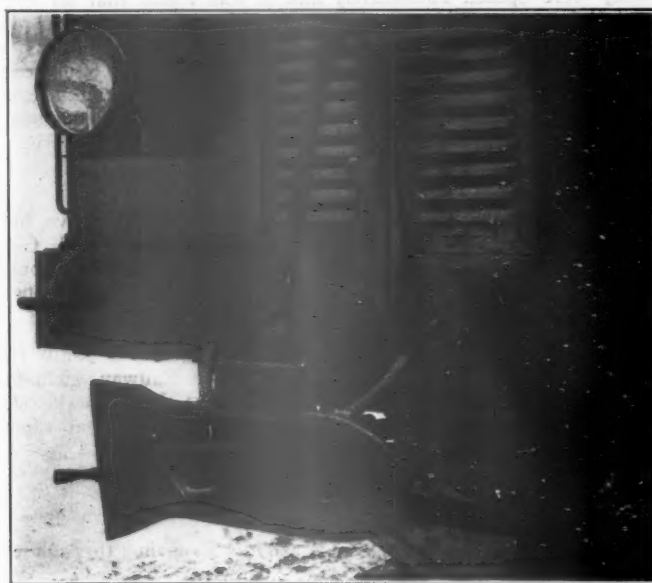
Please send me further details of the.....Estate.
I require
No. of Bedrooms.....
No. of Reception Rooms.....
Extent of Ground.....
Maximum Price to be Paid.....
Amount Available as Deposit.....
Name.....
Address.....

A supplementary publication deals with house plans and gives the reader an idea of the cost of various types of houses. A number of advertisements appear in the publications—for the most part those of real estate agents and country hotels—a fact which doubtless has materially lessened the cost to the railway and at the same time has permitted the publication of a book of much greater interest and value than would have been otherwise possible.

European Design of Automatic Coupler

The adoption of automatic car couplers in Europe was retarded by the war, but is now again receiving attention. Since 1914 the Iron & Steel Works, Schaffhausen, Switzerland, has been manufacturing the GF automatic coupler, which couples the cars by impact and also makes connections between the brake pipes. It is now in use in Switzerland on broad gage lines, light railways and street railways and has been applied in other countries.

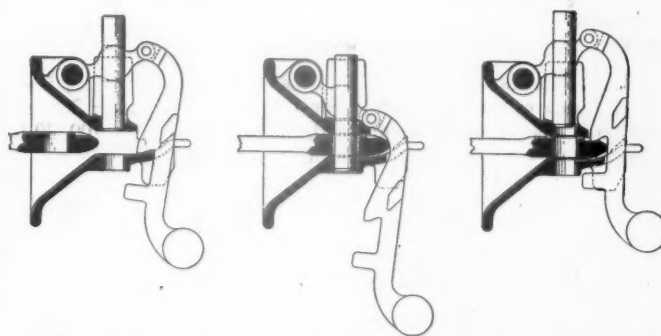
The GF coupler consists of two similar coupling heads, one of which is attached to each end of the car. The head is in the form of a funnel shaped casting with a coupling eye, in blade



The G F Coupler Head with Brake-Pipe Connection

form, protruding from the funnel and provided with a hole near the front of the projection. At the back of the funnel is a bolt which can be set in a raised position. On impact the latch is released by the projecting coupling eye of the opposite head, thus making the coupling. This operation is plainly shown in the drawing. In uncoupling, the handles, shown in the photograph on each side of the head, are raised. In this position the cars can be detached after which the coupling heads resume their normal position, ready for coupling.

As the GF automatic coupler can be fitted to any kind of rail-



Positions of the Mechanism Ready to Couple, Coupled and Set to Uncouple

way vehicle, it is constructed in various ways. Working conditions on all narrow gage railways can be suited so that coupling can take place on any degree of curve. The device is fitted to two-axle cars by cross buffer rods, or scissors. The rods are supplied with springs to meet the forces of traction and impact and are kept in their central position by special centering springs. On four-axle cars the coupler is either attached directly to the truck or attached by a pivot to the underframe of the car and guided from the truck to conform to the curves of the track. A transition coupling rod is used to connect cars provided with the GF coupler with cars still fitted with couplings of the old system.

Equipment and Supplies

D. L. & W. Electrification Bids Rejected

All bids for supplying electrical equipment for the Delaware, Lackawanna & Western's proposed electrification of some of its mileage in the Scranton, Pa., district have been rejected. July 29 was the last day upon which bids could be submitted. They were opened immediately and it was found that all were unsatisfactory. Gibbs & Hill, consulting engineers for the Lackawanna, who received the bids, may advertise for new offers soon. The General Electric Company and Westinghouse Electric & Manufacturing Company were the only two companies that submitted bids for furnishing the heavier equipment.

Locomotives

THE DELAWARE, LACKAWANNA & WESTERN will receive bids until 12 o'clock noon, August 10, through Gibbs & Hill, Consulting Engineers, New York City, for 7 electric freight locomotives. See item above regarding rejection of bids for electrification on part of this road.

MITSUI & Co., New York, have ordered specialties for 6 Decapod locomotives for the South Manchurian Railway, including headlights from the Pyle-National Company; driver brake rigging from the Westinghouse Air Brake Company, and superheaters from the Superheater Company.

Freight Cars

THE SOROCABANA RAILWAY (Brazil) is inquiring through the car builders for 50 stock cars.

THE ALABAMA, TENNESSEE & NORTHERN is inquiring for 100, 50-ton flat cars and 100, 50-ton gondola cars.

ILLINOIS CENTRAL is inquiring for prices on the repair of about 900 miscellaneous box and gondola cars.

THE MATHER HORSE & STOCK CAR COMPANY, Chicago, is inquiring for 500 steel underframes for car repairs.

THE VIRGINIAN RAILWAY is having repairs made to 150 hopper cars, of 50-ton capacity, at the shops of the Virginia Bridge & Iron Company.

THE NEW YORK CENTRAL has given a contract for the repair of 500 gondola cars, for the Pittsburgh & Lake Erie, to the Youngstown Steel Car Company. This is in addition to the repairs reported in our last issue.

THE KANSAS, OKLAHOMA & GULF is inquiring for 150, 50-ton steel frame composite gondola cars with tight bottoms; 250 steel frame composite gondola cars with 12 drop doors, and 100, 40-ton steel frame composite, tight bottom car bodies.

Passenger Cars

THE ATCHISON, TOPEKA & SANTA FE is inquiring for 10 dining cars and 10 buffet cars.

THE FLORIDA EAST COAST, reported in the *Railway Age* of January 7, as asking for prices on 6 passenger cars, has ordered this equipment from the Pullman Company.

THE SAO PAULO-RIO GRANDE (Brazil), reported in the *Railway Age* of May 6, as inquiring for passenger train equipment, is now inquiring through the car builders for 4 sleeping cars, 6 mail cars, 8 baggage cars, and 6 passenger coaches.

Iron and Steel

THE EAST ST. LOUIS, COLUMBIA & WATERLOO has ordered 121 tons of plate girder spans from the American Bridge Company.

THE LEHIGH & NEW ENGLAND has given a contract to the

Shoemaker-Satterwait Bridge Company, Philadelphia, Pa., for about 275 tons of bridge steel.

MITSUI & Co., New York, have ordered 135 tons of structural steel from the Consolidated Steel Corporation for export to Japan; also have ordered 4 miles of 60-lb. rail and 9 miles of 70-lb. rail, a total of about 1,500 tons, from the same company for the Osaka Electric Railway, Japan. The order for 700 tons of 80-lb. rail for the South Manchurian Railway was given to the Consolidated Steel Corporation and not to the United States Steel Products Company as was reported in our issue of July 30.

Miscellaneous

THE CHICAGO & NORTH WESTERN will accept bids until 12 o'clock noon, August 10, for 50 ash pans for locomotives; 50 cast steel pilots for locomotives, and 21 cast steel tender frames.

THE NEW YORK CENTRAL will receive bids until 12 o'clock noon, August 11, for its present requirements on bridge parts, and structural steel for bridges, frogs, repair parts for switches, switch points, switch plates and braces and crossings.

MITSUI & Co., New York, have given an order to the United States Steel Products Company for 63 sets of tramway switches and frogs, about 100 tons, for the Tokio Municipal Railway, Japan, and have also ordered 4 sets of electric trucks from the J. G. Brill Company, for the Nankai Railway, Japan.

Railway Construction

ATCHISON, TOPEKA & SANTA FE.—This company, which was noted in the *Railway Age* of July 23 (page 184), as having authorized the construction of an addition to its power house at Albuquerque, N. M., to cost about \$150,000, closed bids for this work on July 30.

CHICAGO GREAT WESTERN.—This company has awarded a contract for the construction of a rectangular enginehouse at Sycamore, Ill., to the T. S. Leake Construction Company, Chicago.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—This company, which was noted in the *Railway Age* of July 23 (page 184) as having closed bids for the construction of a new brick freight station at French Lick, Ind., to cost about \$10,000, has awarded the contract for this work to the T. S. Leake Construction Company, Chicago.

CHICAGO, ROCK ISLAND & PACIFIC.—This company is accepting bids for the construction of a new 8-stall roundhouse at Amarillo, Tex., to cost about \$40,000.

CHICAGO UNION STATION.—This company has let a contract to the Underground Construction Company, Chicago, for the construction of the substructure in connection with the widening of Canal street, between Jackson and Van Buren streets.

IDAHO CENTRAL.—The Interstate Commerce Commission has issued a certificate of convenience and necessity to this company authorizing the construction of a line from Rogerson, Idaho, to Wells, Nevada, a distance of 90 miles.

ILLINOIS CENTRAL.—This company, which was noted in the *Railway Age* of July 23 (page 184), as accepting bids for the construction of a new frame passenger and freight station at Duck Hill, Miss., has awarded a contract for this work to the A. Lund Construction Company, Chicago. This company is accepting bids for the construction of two abutments and a concrete pier near Heyworth, Ill., to cost approximately \$10,000.

INTERSTATE.—This company, which was noted in the *Railway Age* of April 15 (page 958), as about to accept bids for the construction of 18 miles of single track line with passing tracks and an interchange yard near Whitesburg, Ky., has awarded the contract for this work to Brooks, Callaway & Company, Atlanta, Ga.

KANSAS CITY SOUTHERN.—This company closed bids on July 27 for the construction of seven water treating plants to be located on its line between Kansas City, Mo., and Pittsburg, Kan., and costing a total of approximately \$50,000.

Supply Trade News

The **Barrett Company** on August 1 removed its offices from 17 Battery Place to 40 Rector street, New York City.

The **O. M. Edwards Company, Inc.**, Syracuse, N. Y., has moved its Chicago, Ill., office to 532 First National Bank building.

A. H. Handlan, Jr., vice-president and manager of the **Handlan-Buck Manufacturing Company**, St. Louis, Mo., has been elected president of the company, succeeding his father, the late A. H. Handlan; **E. W. Handlan**, vice-president and treasurer, has been made vice-president; **E. R. Handlan**, secretary, has also been elected to a vice-presidency, and **R. D. Teasdale** has been appointed secretary.

The **T. H. Symington Company**, New York, in order to better serve its customers has created a new Northwestern district for the selling of its products. **J. F. Schurch**, vice-



Le Roy Kramer

president of this company, and also president of the Railway Supply Manufacturers' Association, who has been in charge of the Symington office at Chicago for several years, and who is well known in railroad circles, is in charge of this district with headquarters in St. Paul, Minn. The Chicago office is in charge of **Le Roy Kramer** who has been elected vice-president and director of the company. He assumed his new duties on August 1. Mr. Kramer spent many years in the operating departments

of the St. Louis-San Francisco and the Rock Island railroads and for six years was vice-president in charge of manufacturing for the Pullman Company. During the war he acted as federal manager of the St. Louis-San Francisco and the Missouri, Kansas & Texas railroads at St. Louis under the United States Railroad Administration. He left there in the Spring of 1919 to become vice-president in charge of production for the Willys-Overland plant at Toledo, and was also for a short time vice-president of the Pierce-Arrow Company at Buffalo.

Trade Publications

BELLS AND ALARMS.—The Holtzer-Cabot Electric Company has issued a 16-page booklet describing and illustrating its fire alarm, watchmen's clock and audible signal systems for use in railway service and elsewhere.

SIGNALING SYSTEMS.—Some of the products manufactured by the Holtzer-Cabot Electric Company, Boston, Mass., including fire-alarm systems, calling systems, watchmen's clock systems, etc., are briefly described in a 14-page, illustrated booklet which the company has recently issued.

MANNING, MAXWELL & MOORE, INC.—A 38-page illustrated booklet has recently been issued by Manning, Maxwell & Moore, Inc., in which is given a brief history of the development of the company and its business, followed by a complete list of the official personnel of the various departments and works operated by the corporation. The book also contains a list of the products manufactured by the corporation, as well as of the machine tools and shop facilities of other manufacturers, the distribution of which is handled by Manning, Maxwell & Moore.

Railway Financial News

AKRON, CANTON & YOUNGSTOWN.—*Loan Approved.*—The Interstate Commerce Commission has approved a loan to this company of \$200,000 to assist it in meeting maturing indebtedness and in the purchase of equipment.

ALABAMA, FLORIDA & GULF.—*Authorized to Issue Bonds.*—The Interstate Commerce Commission has authorized this company to issue for cash \$150,000, 7 per cent sinking fund gold bonds, the proceeds to be used in constructing an extension from a point near Wilson, Ala., to Dothan, approximately 4 miles, and from Greenwood, Fla., southward to Marianna, approximately 9 miles, the construction of which has been heretofore authorized. The right of way and \$40,000 in cash will be donated to aid in the construction of these extensions, the estimated cost of which, exclusive of the right of way, is given as \$158,779. The approval is conditional upon the sale of the bonds at not less than 90 per cent of par.

BALTIMORE & OHIO.—*Asks Authority to Issue Toledo-Cincinnati Division Bonds.*—The Baltimore & Ohio has asked the Interstate Commerce Commission for authority to issue nominally \$2,447,000 of its Toledo-Cincinnati Division first lien and refunding mortgage 6 per cent bonds in payment of advances made to acquire a like amount of the Toledo & Cincinnati Railroad Company's first and refunding 6 per cent bonds. The latter bonds when acquired will be used to secure the issue of the bonds which the applicant now requests authority to issue. The Baltimore & Ohio has also asked authority to pledge from time to time \$2,447,000 first lien and refunding mortgage bonds as collateral security for short time loans; and for authority to issue and pledge the first and refunding mortgage 6 per cent bonds of the Toledo & Cincinnati Railroad as collateral to the applicant's first lien and refunding mortgage.

CAMBRIA & INDIANA.—*Loan Approved.*—The Interstate Commerce Commission has approved a loan of \$250,000 to this company from the revolving fund to assist it in meeting the maturity of short term notes on August 1. The company had applied for \$750,000.

CENTRAL VERMONT.—*Asks Loan from Revolving Fund.*—This company has applied to the Interstate Commerce Commission for a loan of \$75,000 for five years to retire equipment notes.

CHICAGO & ALTON.—*Annual Report.*—A review of this company's annual report for 1920 appears on another page of this issue.

CHICAGO GREAT WESTERN.—*Loan Approved.*—This company has been granted a loan from the government by the Interstate Commerce Commission amounting to \$1,929,373.

CISCO & NORTHEASTERN.—*Granted Authority to Issue Stock.*—This company has been granted authority by the Interstate Commerce Commission to issue for sale at par \$264,950 of capital stock and to issue \$882,000 first mortgage 10-year, 6 per cent gold bonds, \$326,500 of which is to be used at par to pay various promissory notes and accrued interest and the remaining \$555,450 of bonds to be sold at not less than 80 per cent of par or to be pledged as collateral securing for short time notes. The proceeds would be applied to the cost of constructing and equipping the applicant's line and of additions, betterments and extensions.

DELAWARE, LACKAWANNA & WESTERN.—*Directors Declare Stock Dividend.*—The directors of the Delaware, Lackawanna & Western on July 28 declared a stock dividend of 100 per cent, payable August 20 to stockholders of record August 8. The taking of this action follows the approval of the Interstate Commerce Commission last April and of the stockholders of the company on July 21.

DENVER & RIO GRANDE.—*Suits Against Former Directors Dismissed.*—Judge Lewis, of the Federal Court, Denver, has dismissed a suit charging collusion and fraud brought by the

stockholders' protective committee against directors of the company and others. He has also denied the plaintiff's motion for leave to file an amended and supplemental petition. The Protective Committee has subsequently appealed to the U. S. Circuit Court of Appeals at St. Louis on the right to file an amended and supplemental complaint, and this appeal has been granted by the court at St. Louis.

The Wall Street Journal says:

The suit dismissed by Judge Lewis was the one filed by counsel for the protective committee last December, and which made general charges of interlocking directorates, and which alleged conspiracy and fraud in connection with that part of the Denver's financial history surrounding the company's default of bond interest on Western Pacific bonds, which had been guaranteed. Inasmuch as the charges in this suit were only of a general character it was expected that the protective committee would file another complaint naming more specific instances of alleged fraud, but this has not been done. The committee has made no announcement as to whether or not it intends yet to file an entirely new complaint.

The stockholders' hope of saving the property now rests with what success it might have in the Court of Appeals, though counsel for the protective committee has maintained that in the last resort the U. S. Supreme Court will be referred to and the whole matter laid before it.

In the meantime Western Pacific interests who purchased the Denver at court sale price in consequence of a deficiency judgment following foreclosure on the Western Pacific, are in Denver looking after the actual transfer of title to the property to the new Denver & Rio Grande Western.

The formal transfer of the property of the Denver & Rio Grande to the newly organized Denver & Rio Grande Western was sanctioned July 27 by Judges Lewis and Sanborn of the Federal Court of Appeals, and the transfer has taken place.

ERIE.—New Directors.—George T. Slade and Frank L. Polk have been elected directors, succeeding Ogden Mills and the late Francis Lynde Stetson.

GEORGIA & FLORIDA.—New Receiver.—John Skelton Williams has been appointed sole receiver, succeeding Langborne M. Williams, W. R. Sullivan and John F. Lewis, who have resigned as receivers.

GREAT NORTHERN.—Annual Report.—The income account for the year ended December 31, 1920, compares with the previous year as follows:

	1920	1919
Operating revenue (10 months).....	\$106,801,583	.....
Operating expenses	94,911,125	.....
Taxes	8,617,402	.....
Operating income	\$3,273,056	.....
Federal compensation (2 months).....	4,781,162	*\$28,868,973
Other income	19,747,501	3,395,294
Gross income	\$27,801,719	\$32,082,267
Interest, rentals, etc.	8,497,622	9,942,682
Net income	\$19,304,097	\$22,139,585
Dividends	17,462,916	17,462,889
Sinking funds, etc.	25,685	76,230
Investment in physical property.....	.....	2,500,000
Surplus	\$1,815,496	\$2,100,466

*12 months.

*Comprises tax liability, insurance and casualty reserves, accrued depreciation of road and equipment, and other unadjusted credits.

The annual report of the Great Northern will be reviewed editorially in an early issue.

GREEN BAY & WESTERN.—Proposed Abandonment of Branch Line Held Not Justified.—The proposed abandonment by the Green Bay & Western of a branch line between Onalaska, Wis., and La Crosse, 6 miles, has been held by the Interstate Commerce Commission not to be justified and a certificate of public convenience and necessity has been denied. The carrier desired to abandon the branch line because of deficits in the costs of its operation. The commission holds that the results of the operation of the branch as reflected in the accounts of the system as a whole, are not such as to call for a granting of relief in view of the showing made as to the public need for the service. If the carrier, however, can work out other arrangements whereby the public will be given the same service and at similar rates, the proceeding may be reopened. The carrier also proposed to abandon operation under trackage rights on the Chicago & North Western, between Onalaska, Wis., and Marshland, 22 miles, but the commission holds that the cessation of operations under trackage rights is not prohibited by paragraph 18 of section 1 of the act.

ILLINOIS CENTRAL.—Authorized to Issue Bonds.—The Illinois Central has been granted authority by the Interstate Commerce Commission to issue and sell \$8,000,000 of 15-year, 6½ per cent

secured gold bonds at not less than 93.75 per cent of par, and to pledge as collateral security for the bonds \$8,225,000 of Illinois Central refunding mortgage 4 per cent gold bonds, and \$3,820,000 of Illinois Central and Chicago, St. Louis & New Orleans joint first refunding mortgage 5 per cent bonds. The purpose of the issue is to secure funds to meet maturing indebtedness. Arrangements have been made by the carrier with Kuhn, Loeb & Co. for the sale of the bonds at 93.75 per cent of par and accrued interest.

The Illinois Central and the Chicago, St. Louis & New Orleans have also been granted authority to issue from time to time \$136,700 of Illinois Central and Chicago, St. Louis & New Orleans joint first refunding mortgage 5 per cent bonds for pledging and repledging as collateral security for short time notes. The bonds are now in the applicant's treasury.

JACKSON & EASTERN.—Asks Authority to Issue Bonds.—This company has filed an application with the Interstate Commerce Commission for authority to issue \$95,000 of bonds, secured by a first mortgage, now in its treasury. The proceeds of the sale of the bonds will be used to pay current indebtedness and for betterments and extensions.

LAKE ERIE, FRANKLIN & CLARION.—Authorized to Issue Notes.—This company has been granted authority by the Interstate Commerce Commission to issue, from time to time, promissory notes for an aggregate face amount outstanding at any one time not to exceed \$25,000, in renewal of a promissory note for a like amount, the issue of which has heretofore been authorized in this proceeding.

LANCASTER & CHESTER.—Granted Authority to Extend Bonds.—This company has been granted authority by the Interstate Commerce Commission to enter into an agreement with the holder of \$135,000 first mortgage 5 per cent, gold bonds for the extension of the maturity date thereof from July 1 last to July 1, 1922, and to increase the rate of interest from 5 to 7 per cent per annum.

LONG ISLAND.—Annual Report.—The corporate income for the year ended December 31, 1920, compares with the year 1919, as follows:

	1920	1919
Compensation, January and February, 1920; year 1919	\$ 647,200	\$3,221,949
Compensation for guaranty period March 1, to Aug. 31	1,833,689	.....
Operating results, Sept. 1 to Dec. 31, 1920:		
Operating revenues	9,172,265	.....
Operating expenses	8,825,396	.....
Net from railway operations.....	346,869	.....
Railway tax accruals	396,798	.....
Railway operating deficit	52,437	.....
Net railway operating deficit	165,833	.....
Non operating income	760,002	719,276
Gross income	3,075,058	3,941,225
Interest on funded debt	2,311,618	2,122,786
Total deductions from gross income	3,585,280	3,258,719
Net income	510,221	682,506
Appropriation to sinking and other reserve funds..	430	430
Balance transferred to credit of profit and loss..	510,651	682,076

The annual report of the Long Island will be reviewed editorially in an early issue.

MIDDLE TENNESSEE.—To Be Sold.—The Commercial and Financial Chronicle reports the Nashville Trust Company as saying that this road, which runs from Franklin, Tenn., to Mt. Pleasant, a distance of about 44½ miles, and which was reported to have discontinued business last October, will be sold September 10 at Franklin. Officers of the Louisville & Nashville, it is reported, have made an inspection of the road and it is believed intend inquiring about the property. It is said that the Illinois Central may also be a bidder.

MINNEAPOLIS & ST. LOUIS.—Authorized to Pledge Bonds.—This company has been authorized by the Interstate Commerce Commission to pledge and repledge from time to time \$714,000 of refunding and extension mortgage 5 per cent gold bonds as collateral security for short term notes. The issue of the bonds was recently authorized by the commission.

NEW ORLEANS, TEXAS & MEXICO.—Authorized to Issue Bonds.—This company has been granted authority by the Interstate Commerce Commission to issue \$533,700 of its first mortgage bonds as collateral security for a note of \$500,000, payable to the Columbia Trust Company of New York 24 months after date.

SPRINGFIELD TERMINAL.—Authorized to Issue Capital Stock.—This company has been authorized by the Interstate Commerce Commission to issue \$62,500 of capital stock at par for cash, the proceeds thereof to pay indebtedness on capital account. The company wished to issue \$100,000 of stock, but the commission limited the amount to the sum that would be used for capital purposes.

TEXAS CITY TERMINAL.—Authorized to Issue Securities.—This company has been authorized by the Interstate Commerce Commission to issue \$500,000 of common stock and \$1,984,300 of 20-year sinking fund, 6 per cent first mortgage bonds to be used in payment for the property formerly owned by the Texas City Transportation Company, which is to be operated by the new company.

Final Settlements with Railroad Administration

The United States Railroad Administration reports the following final settlements, and has paid out to the several roads the following amounts:

Delaware, Lackawanna & Western.....	\$5,000,000
Elgin, Joliet & Eastern.....	3,700,000
Gulf Coast Lines.....	800,000
New York Dock Railway.....	64,861
Fairchild & Northeastern.....	10,000

The payment of these claims on final settlement is largely made up of balance of compensation due, but includes all other disputed items as between the railroad companies and the Railroad Administration during the twenty-six months of Federal control.

Treasury Payments

The Treasury has announced the payment of a loan of \$250,000 to the Cambria & Indiana and partial payments of guaranty, as follows:

Alabama, Tennessee & Northern.....	\$22,500
Boyne City, Gaylord & Alpena.....	12,500
Chicago & Erie.....	336,500
Chicago Tunnel.....	14,500
Galveston Wharf.....	39,000
Houston & Brazos Valley receiver.....	15,500
Huntington & Broad Top Mountain.....	122,000
Pittsburgh, Shawmut & Northern receiver.....	200,000
St. Joseph & Grand Island.....	40,000

Guaranty Certificates Issued

The Interstate Commerce Commission has issued partial payment certificates on account of the six months' guaranty, as follows:

Alabama, Tennessee & Northern.....	\$22,500
Boyne City, Gaylord & Alpena.....	12,500
Chicago Tunnel Company.....	14,500
Chicago & Erie.....	336,500
Colorado & Southern.....	340,000
Denison & Pacific Suburban.....	1,800,000
Galveston Wharf Company.....	39,000
Houston & Brazos Valley.....	5,500
Huntington & Broad Top Mountain.....	122,285
Rio Grande Southern.....	15,000
St. Joseph & Grand Island.....	40,000
Tonopah & Goldfield.....	80,000

Dividends Declared

Buffalo, Rochester & Pittsburgh—preferred, \$3, and common, \$1, payable August 15 to holders of record, August 8.
Delaware, Lackawanna & Western—100 per cent, stock dividend, payable August 20 to stockholders of record August 8.
Illinois Central—1¼ per cent quarterly, payable September 1 to stockholders of record August 5.

THE RAILROADS OF TEXAS report a total revenue for the first four months of the present calendar year of \$72,938,538, an increase of \$5,780,190; operating expenses, \$66,694,459, an increase of \$62,390. Net revenue from operation was \$6,244,229, an increase of \$5,717,800.

FRUIT GROWERS of Oceana County, Michigan, 400 of them, have sent to President Harding a request that Henry Ford be appointed director-general of the railroads of the country. The farmers say that high freight rates are destroying their profits, and they think that Mr. Ford could do for the whole country what he has done on the Detroit, Toledo & Ironton—make a general reduction in freight rates.

Railway Officers

Executive

John Pullen, president of the Canadian Express Company, has been elected president of the Canadian National Express Company, the two companies having been merged under the name of the latter, effective September 1. **W. C. Muir**, heretofore general manager of the Canadian National Express Company, will become vice-president and general manager of the reorganized company.

Financial, Legal and Accounting

R. W. Wynn has been appointed car accountant of the Georgia & Florida with headquarters at Augusta, Ga., effective July 8, succeeding G. B. Matthews, Jr., superintendent of car service, resigned to accept service with another company. The position of superintendent of car service has been abolished.

Operating

M. McKernan has been appointed superintendent of safety of the Missouri Pacific, with headquarters at St. Louis, Mo., effective August 1, succeeding R. H. Dwyer, who has been assigned to other duties.

E. M. Grobel, assistant trainmaster of the Chicago, Milwaukee & St. Paul, with headquarters at Miles City, Mont., has been promoted to trainmaster, with headquarters at Mobridge, S. D., effective August 1, succeeding D. D. Spade, who has been assigned to other duties. The position of assistant trainmaster at Miles City has been abolished.

W. L. King, superintendent of the Southern with headquarters at Bristol, Va., has been transferred in a similar capacity to Columbia, S. C., succeeding **W. D. Post**, who has been transferred as superintendent to Knoxville, Tenn. Mr. Post succeeds **A. P. Johnson**, who has been appointed trainmaster with headquarters at Toxoca, Ga., succeeding **J. F. Gaffney**, transferred as trainmaster to Knoxville, Tenn. **C. E. Burchfield**, trainmaster at Knoxville, has been promoted to superintendent with headquarters at Bristol, Va.

W. F. Eckert, superintendent of the Wilmington and Columbia division of the Philadelphia & Reading, has been transferred in a similar capacity to the New York division with headquarters at Philadelphia. **A. T. Dice, Jr.**, assistant superintendent of the Reading and Harrisburg divisions, succeeds Mr. Eckert. **P. S. Lewis**, assistant superintendent of the Atlantic City (a subsidiary of the Philadelphia & Reading), has been appointed superintendent of the same road with headquarters at Camden, N. J., and the position of assistant superintendent has been abolished. **A. T. Owen**, superintendent of stations and transfers of the Philadelphia & Reading, has been appointed assistant superintendent of transportation in addition to his present duties. **C. A. Beach**, superintendent of the New York division, has been appointed assistant to the superintendent of stations and transfers. **J. E. Turk**, superintendent of the Atlantic City and the Delaware River Ferry (both subsidiaries of the Philadelphia & Reading), has been appointed general superintendent of the Delaware River Ferry and the position of superintendent of the Delaware River Ferry has been abolished. **W. D. Kinzie**, assistant superintendent of the Shamokin division of the Philadelphia & Reading, has assumed the duties of trainmaster in addition to his present duties. **D. S. Haldeman** has been appointed assistant superintendent of the Reading and Harrisburg divisions with headquarters at Reading, Pa. These changes were effective August 1.

Traffic

T. J. Shea has been appointed general agent, freight department, of the Chicago & Alton, with headquarters at Chicago, effective July 16.

J. F. Zurn, agent, consolidated ticket office, Fort Worth, Tex., has been appointed district passenger agent of the Texas & Pacific, with the same headquarters.

S. W. Gafner, ticket agent of the Lehigh Valley, with headquarters at Buffalo, N. Y., has been promoted to division passenger agent, with the same headquarters.

Andrew L. Doggett, whose appointment as assistant general freight agent of the Baltimore & Ohio with headquarters at Pittsburgh, Pa., was announced in the *Railway Age* of July 9 (page 94), was born at Paris, Tex., June 17, 1883. He was educated in the public schools of Cincinnati, O., and entered railway service August 27, 1898, as a messenger in the general freight office of the Baltimore & Ohio at Cincinnati. Subsequently he served as claim record clerk, bill clerk, rate clerk and claim clerk in the various freight traffic offices of the company at Cincinnati. In 1907, he was appointed traveling freight agent at Cincinnati and served in that capacity until 1917 when he was appointed commercial freight agent at Akron, O. In 1919 he was promoted to division freight agent at Youngstown, O., which position he was holding at the time of his recent appointment.

A. Kittler, assistant agent, consolidated ticket offices, Newark, N. J., has been appointed division passenger agent of the Lehigh Valley, with headquarters at Ithaca, N. Y.

W. R. MacFarland, whose appointment as general passenger agent of the Chicago Great Western, with headquarters at Chicago, was announced in the *Railway Age* of July 23 (page 185), was born at Columbus, Ohio, in 1876. He entered railroad service on September 1, 1897, on the Hocking Valley, remaining in the service of that company until September 1, 1901, when he became a rate clerk on the Pennsylvania and served in that position until January 1, 1912. He was then promoted to chief rate clerk in the passenger department of the road at Pittsburgh, Pa. Mr. MacFarland served continuously in this position until March 1, 1920, when he was promoted to assistant general passenger agent of the Northwestern region of the Pennsylvania, with headquarters at Chicago. His recent appointment, effective July 16, brought him to the Chicago Great Western, succeeding A. C. Irons, resigned.

W. M. Brooks has been appointed commercial agent of the Atlanta, Birmingham & Atlantic with headquarters at Cincinnati, succeeding J. J. McCarty, resigned, effective July 20.

T. P. Fenelon, assistant agent, consolidated ticket office, Fort Worth, Tex., has been appointed division passenger agent of the Gulf, Colorado & Santa Fe, with the same headquarters.

E. G. Hukill has been appointed traffic manager of the Cleveland, Southwestern & Columbus, with headquarters at Cleveland, Ohio, succeeding C. C. Collins, who has resigned.

S. M. Spears, city freight agent of the Illinois Central, with headquarters at Memphis, Tenn., has been promoted to commercial agent, with headquarters at Louisville, Ky., succeeding C. Klinger, deceased.

L. R. Capron, whose promotion to assistant freight traffic manager of the Northern Pacific, with headquarters at St. Paul, Minn., was announced in the *Railway Age* of July 16 (page 144), entered railway service in April, 1902, as an office boy in the freight traffic department of the Chicago, Burlington & Quincy at St. Paul, Minn. A year later he was employed in a similar capacity by the Northern Pacific and served in various clerical positions in the general freight department of that road until 1914, when he was appointed chief clerk to the vice-president in charge of traffic. He was promoted to assistant general freight agent, with headquarters at St. Paul, on April 1, 1915, and was given jurisdiction over rate litigation before the Interstate Commerce Commission and various state railroad commissions. Mr. Capron was transferred to Seattle, Wash., on March 1, 1920, and was serving in that position at the time of his recent promotion.

Mechanical

G. L. Ernstrom has been appointed road foreman of engines of the Yellowstone division of the Northern Pacific, effective July 7.

Special

R. P. Rockefeller has been appointed special assistant in the office of the assistant to the president of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago.

L. J. Benson, district special agent of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, has been promoted to chief special agent, lines west, with headquarters at Seattle, Wash., succeeding **J. Wernick**, who has resigned. **W. E. Grant**, district special agent, with headquarters at Milwaukee, Wis., succeeds Mr. Benson. **J. E. Nolan** succeeds Mr. Grant. The promotions and appointments were effective July 15.

Obituary

Le Grand Young, formerly counsel of the Utah Central, the Utah Southern and the Union Pacific, died at his home near Salt Lake City, Utah, on July 25.

W. C. McLaughlin, formerly assistant general freight agent of the Baltimore & Ohio, with headquarters at Cleveland, Ohio, and later a member of the auxiliary committee of the Central Freight Association, died at Chicago on July 24.



A. L. Doggett



W. R. MacFarland



Station at Le Mans, France